THE
MOST ANCIENT EAST

THE ORIENTAL PRELUDE
TO EUROPEAN PREHISTORY

BY

V. GORDON CHILDE

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THE MOST ANCIENT EAST

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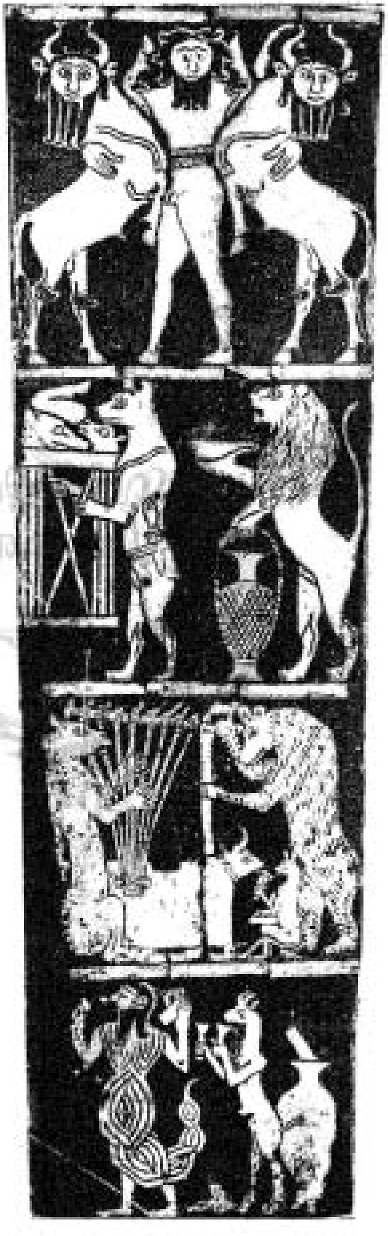
PLATE I



SHELL INLAY FROM ROYAL TOMB AT UR

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BY

V. GORDON CHILDE

B.Litt., Professor of Prehistoric Archæology in Edinburgh University, Author of *The Aryans, The Dawn of European Civilization,* etc.

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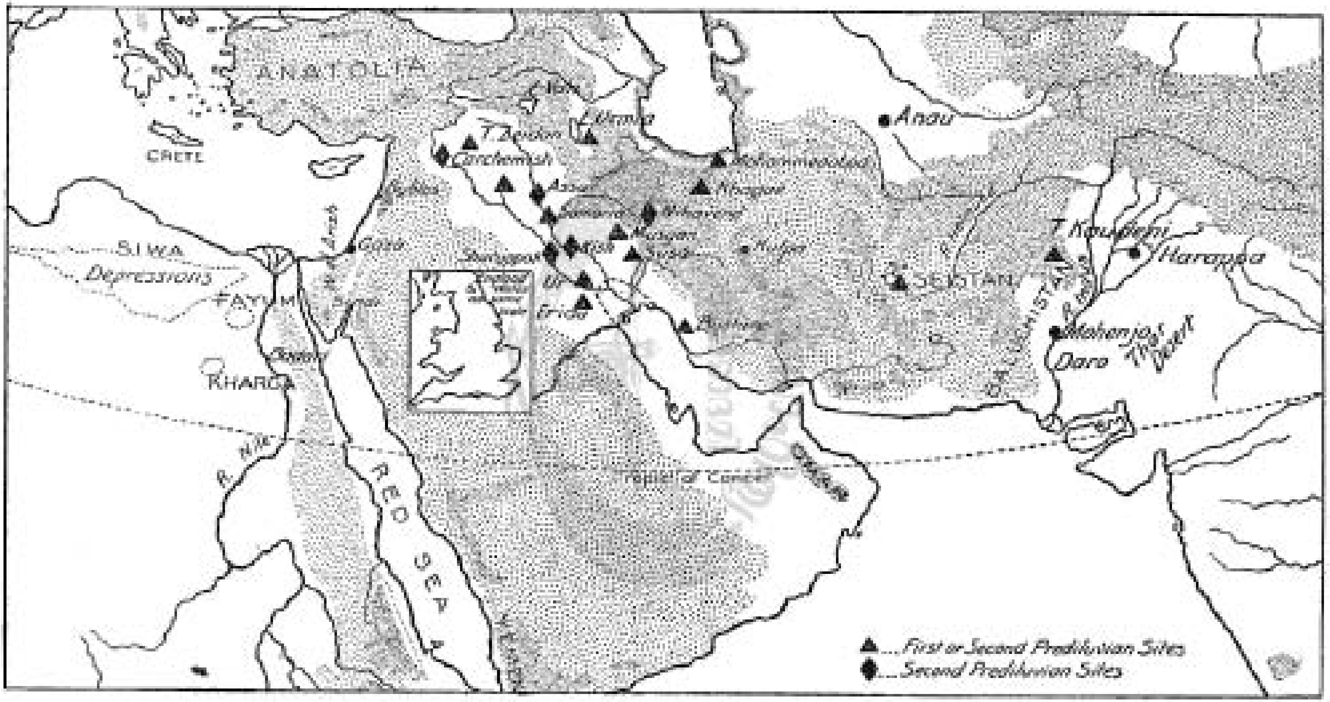
PREFACE

IT seems peculiarly rash to write anything about the Ancient East just at this juncture. In no branch of archæological science is discovery proceeding at such a breathless pace or leading to such revolutionary results. The disinterment of the forgotten Indus civilization, the opening of the Royal Tombs at Ur, and the discovery of the Badarian culture in Egypt have effected a more radical and dramatic enlargement of the historical horizon than any event since Evans' identification of the Minoan civilization or Schliemann's disclosure of the treasures of Mycenæ.

Yet perhaps these very discoveries may be pleaded as a palliation of my rashness. From the daily and weekly papers many people are made aware of them without being able in the least to understand what they really imply ; for no extant work, at once intelligible to the general public and adequately illustrated, gives the man in the street a clear idea of the context of the new finds. In any case the novelty of my material may be advanced as an excuse for the inconclusive nature of my essay and the popular treatment of its theme. To try and build up an elaborate and coherent theory out of our present half-knowledge would be waste of time when incalculable new discoveries are upsetting the most cherished conclusions of the experts. To produce a manual (supposing I were capable of that) which would be bound to need radical revision in a couple of years would be sheer extravagance.

I have, therefore, attempted to sum up objectively the ascertained facts, together with some authoritative interpretations, so that the reader may hereafter be able to read with more comprehension of their drift the reports of subsequent discoveries. At the same time I do hope that my book may be of service to one class of serious students. As I tried to show in my *Dawn of European Civilization*, our ancestors' progress was for long inspired by the Ancient East; and the whole chronology of prehistoric Europe rests in the long run on synchronisms with the historical cultures of Babylonia and Egypt. Yet no cheap and generally accessible book illustrates the original forms assumed by those Oriental inventions that Europe adopted and adapted, or presents in the light of the newest chronology of Egypt and Sumer a conspectus of the types whose appearance north of the Mediterranean gives the framework for European prehistory. Thanks to a number of figures that explain themselves without dull commentaries, I hope this little work will be of real value to some serious students in this respect without becoming unreadable to the laymen.

For these illustrations I am indebted particularly to Mr. Guy Brunton, O.B.E., Sir Flinders Petrie, Miss Caton-Thompson, Mr. Woolley, Professor Langdon, the Conservateur of the Louvre, the Trustees of the British Museum and of the Pennsylvania University Museum, the Director General of Archæology in Egypt, the Egypt Exploration Society, the Director of the Royal Scottish Museum, Prof. H. Breuil, and the Director-General of Archæology in India. Mr. Brunton, Mr. Woolley, Professor Langdon, Professor Junker, Father Bovier Lapierre and others have most obligingly given me information as to unpublished discoveries for which I take this opportunity to thank them.



SKETCH-MAP OF THE MOST ANCIENT EAST

CHAPTER I

FROM HISTORY TO PREHISTORY

BARELY a thousand years ago Scotland and the rest of northern Europe were still sunk in the night of illiteracy and barbarism. A thousand years earlier and history's light shines upon our dark continent merely from a few points on the shores of the Mediterranean. And in the next millennium these points flicker out one by one until only the ghostly radiance of heroic myth lights up the storied walls of Troy and Tiryns. The prehistoric archæologist can shed some light on the savage past of our ancestors and forerunners by digging up their rude tools and clumsy ornaments and arranging them in approximate temporal series or local groups. He thus wins the picture of the material life of various peoples who inhabited Britain and adjacent territories at successive epochs, and can at times even trace the wanderings of such human groups with the aid of their artifacts.

Yet the people so revealed remain almost inevitably nameless; their spiritual life is virtually a sealed book to us and their very antiquity may be a matter of doubt to many. But one thread is clearly discernible running through the dark and tangled tale of these prehistoric Europeans: the westward spread, adoption, and transformation of the inventions of the Orient. And it is from a study of objects of Oriental type found, imported, or copied, in the cultural provinces of Europe that we may hope to define in more than purely relative terms the age of the several cultural groups recognized in illiterate Europe before the middle of the first millennium B.C.

For on the Nile and in Mesopotamia the clear light of written history illumines our path for fully fifty centuries, and looking down that vista we already descry at its farther end ordered government, urban life, writing, and conscious art. There in the Ancient East, too, some episodes at least in the great drama of the conquest of civilization are enacted on the open stage. The greatest moments—that revolution whereby man ceased to be purely parasitic and, with the adoption of agriculture and stock-raising, became a creator emancipated from the whims of his environment, and then the discovery of metal and the realization of its properties—have indeed been passed before the curtain rises. Yet even so, we are so much nearer the beginnings on the banks of the Nile and the Euphrates that we have better hope of understanding those most momentous advances there than from any scrutiny of kitchen-middens on the Baltic or of shell-heaps on the Scottish coasts. And frequently the data from the Orient serve as a written commentary upon European prehistory. Some of the peoples of Oriental antiquity were close kinsmen to the neolithic inhabitants of parts of Europe or descendants of the race of palæolithic hunters who had lived there before. From the Oriental kinsmen of our barbarian ancestors may we not expect to learn something even of the spiritual life of the latter? May not the practices of the Orient, glossed by literary texts, throw light on contemporary usages in silent Europe?

The prehistoric and protohistoric archæology of the Ancient East is therefore an indispensable prelude to the true appreciation of European prehistory. The latter is at first mainly the story of the imitation, or at best adaptation, of Oriental achievements. The record of the achievements themselves is enshrined in the former.

Now in no sphere of archæological or anthropological research are such startling discoveries being made as in the Ancient East. I need only instance the opening up of a quite new chapter in Egypt's remotest past at Badari, disclosing a flourishing neolithic culture older than any previously known elsewhere, or the dazzling revelation of the brilliance of Sumerian civilization at the end of the fourth millennium B.C. or again the dramatic entry of India on to the stage of Oriental history with the excavation of Harappa and Mohenjo Daro. An appreciation of these revolutions from the point of view of the purely archæological story of human culture has not yet been attempted. And even the archæological context to which they belong is by no means readily accessible to the ordinary worker in the field of prehistory. That is my excuse for offering in this volume a survey, that cannot help being one-sided, incomplete, and inconclusive, of the results of the work of specialists in a field different to, though cognate to, my own.

As a preliminary it is necessary to recapitulate some conclusions of the philological historian so as to define the basis of early chronology that forms the framework for my tale and to introduce the actors who are to play the leading rôles in our drama.

In Egypt the written records—primarily the compilation in Greek by Manetho, composed under Ptolemy Philadelphus, and then certain fragments of much older native Egyptian annals, particularly the so-called Turin Papyrus written about 1300 B.C. and the Palermo Stone inscribed some fourteen hundred years earlier—serve to date the archæological monuments from about three thousand B.C. onwards. This historical period begins with the unification of Upper and Lower Egypt as a single kingdom by the first Pharaoh, traditionally called Menes (really a composite personage), has been subdivided by Manetho by dynasties. Modern historians recognize three main periods of Egyptian greatness, termed the Old, Middle, and New Kingdoms respectively, separated by intervals of decline or even chaos; the Old Kingdom corresponds to Manetho's Dynasties III–VI, the Middle his XIth and XIIth, and the New to the XVIIIth and XIXth. Throughout the whole of this period it is possible to give the age of most monuments in terms of solar years thanks to the lists of kings and their reigns controlled by certain astronomical dates given by peculiarities of the Egyptian calendar. And there is one yet earlier date, definable in like numerical terms, that, according to one school of interpretation, takes us back into a prehistoric epoch —that date is the introduction of the calendar itself.

The Egyptian calendar, that forms the most immediate forerunner of our own, was created in response to an imperative demand of Egyptian agriculture. The Nile is the very life of Egypt, and all agricultural operations, upon which the prosperity and indeed the very existence of prince and peasant depend, are regulated by its flood that recurs annually with mathematical regularity. The recurrence of this vital event was a challenge to the dwellers on the Nile to devise some more exact system of measuring time than the lunar reckoning of barbarians, in fact to effect an artificial reconciliation of the lunar and solar years, in order that the necessary agricultural operations might be put in hand in due time. Now in the latitude of Memphis and Heliopolis at the apex of the Delta the beginning of the inundation coincides with the heliacal rising of Sothis, our Sirius; that is to say, Sirius appears on the horizon just before dawn on the same day as the flood reaches those cities. Hence some genius, resident presumably in Memphis or Heliopolis, elaborated a calendar for the guidance of cultivators in which the heliacal rising of Sothis was to mark the beginning of the official year and to give the signal for the cycle of labours in the field to start. The official year was to consist of twelve months of thirty days with five intercalary days superadded.

Such a reconciliation of the primitive lunar calendar with the solar year was a really extraordinary achievement and implies a body of collected and systematized experience and a degree of forethought not to be found among barbarians. Yet the system must in all probability have been devised and brought into operation in the year 4236 before the beginning of our reckoning.

A slight imperfection in the system makes it possible to calculate this date so exactly although no written documents have survived from so early an age. The Egyptian year fell short of the true solar year by just under six hours, a discrepancy that would at first pass unnoticed but would mean in a couple of centuries that the official seasons, "Inundation," "Sowing," "Harvest," could have no relation to the activities they had been designed to guide. In fact New Year's Day, which was at all times celebrated on the day of the heliacal rising of Sirius, would only coincide with the first day of the official year once in 1461 years. This period is often termed a Sothic cycle. Now we know that a Sothic cycle began in A.D. 139, and it is possible to connect with the Sothic system the accession of several kings in the XVIIIth dynasty and of one (Senusert III) even as early as the XIIth. The beginning of the last-named dynasty cannot on the strength of the royal lists possibly be put later than 2000 B.C.[1] Hence the introduction of the Sothic calendar must be assigned to a still earlier Sothic cycle either 2776 or 4236 B.C. But the calendar was already established under the Pyramid builders of the IVth Dynasty that reigned according to computations based upon the fragments of native annals earlier than 2776.[2] Hence if the date for the pyramid age obtained by dead reckoning be accepted, the system must have been established as early as 4236, a thousand years before Menes or our oldest inscribed monuments. That year may therefore rank as the earliest fixed date in human history.

The date just mentioned implies a flourishing and advanced culture a thousand years before the written record begins. Traditions that were still very much alive when the Palermo Stone was inscribed give some information on the protohistoric period. "Menes" was almost certainly a king of Upper Egypt who had imposed his sway on the fertile Delta. Before him there had been kings of Upper Egypt and kings of Lower Egypt, whose names are even recorded on the Palermo Stone ; Menes' work was merely the unification of these two realms, a unification symbolized in the double crown Menes and all his successors wore. But the two kingdoms were in a sense the result of the disruption of an older unity created by the conquest of Upper Egypt by the Followers of Horus or *Shemsu-Hor*, the men of the Falcon clan whose original home was in the western Delta.[3] And behind that conquest went other preparatory events vaguely reflected in tradition. The worshippers of Osiris and Anzti whom Osiris supplanted had mastered the whole Delta or had, on another view, even extended their dominion to Upper Egypt, a conquest that in any case preceded the advance of the Horus clan.[3] Tradition says that Osiris had taught the Egyptians agriculture and links him curiously with Byblos ; cult invested him with the shepherd's crook and the ploughman's ox-goad ; his personality in any case is reminiscent of an Asiatic vegetation deity. As his human shape is in contrast to the totemic animal deities of the Nile, so the economic system which he represents is far ahead of the African hunting or garden culture. In any case,[4] despite some ambiguities in the tradition its interpretation leaves no doubt as to a former political supremacy of the North over the South that was reversed by Menes when the North had already profoundly affected Upper Egypt. For instance, the hieroglyphic script, used by the dynastic Egyptians, must have been invented in the Delta since plants and animals peculiar to the Delta are prominent among its signs, and the universal adoption of this script in the Nile valley, that cannot of course have been introduced by the southerner Menes, must be referred to some older unification perhaps under the Shemsu-Hor. And the establishment of the calendar may be referred to the same period of northern supremacy.

Linguistics and comparative ethnography offer to guide us still farther back towards the origins of Egyptian civilization. Many philologists regard the Egyptian language as a compound or hybrid speech in which a Semitic strain allied to Assyrian or Hebrew has been engrafted on to an African Hamitic stock such as is represented in a purer form, for example, in Berber. The coincidence of the words for left and right with the designations for east and west is held to prove that the Semitic element came in from the north; for such a terminology for the points of the compass would be natural to a people ascending the river and the words in question belong to the Semitic stratum.[5]

The social and religious institutions that face us in such maturity at the dawn of Egyptian history not only challenge us to investigate the process of their growth but also provide us with clues to facilitate the task. Behind the impressive figure of the omnipotent and deified Pharaoh looms the shadow of a humbler personage—the divine king, as Fraser has depicted him, who holds his sovereignty by virtue of his magic power and as its price must lay down his life 'ere that power grow enfeebled with the decay of his body. Pharaoh was in fact not only accredited with many of the functions assigned to such kings among contemporary barbarians; he escaped their fate only through the performance of a magic rite that was equivalent to a ritual death. The *Sed* festival, celebrated periodically by every Pharaoh from Menes, was a magical identification of the king with Osiris, the god who had died and risen again. Its meaning and function were to confer upon the monarch renewed life and vigour by a symbolic death and resurrection.[6] And so it presupposes a time when Pharaoh's predecessors were actually put to death ceremonially to make room for young and potent successors lest their magic efficacy vanish with their enfeebled frames.

Similarly a contemplation of the weird animal deities of the Egyptian pantheon has suggested that the Falcon Horus, the Cow Hathor, the Serpent Neith and the rest have grown out of totems. And that implies behind the unified Egyptian State a multiplicity of totemic clans whose patron ancestral animals and plants had become local deities and then, with the unification of the land by the Shemsu-Hor, had taken their places under the Falcon totem of the victorious clan in a national pantheon.

Now on the Upper Nile there dwell to-day people allied to the oldest Egyptians in appearance, stature, cranial proportions, language, and dress.[7] These are ruled by rain-maker magicians or by divine kings who were until recently ritually slain, and the tribes are organized in totemic clans. The Shilluk, ruled by a centralized king with animal (i.e. totem) ancestry who was ritually slain, illustrate a stage immediately prior to the divine monarchy of Menes. A still older phase is seen among the Dinka: they are a congeries of autonomous totemic clans, often at war with one another, and each ruled by a "rain-maker" who was ceremonially killed before old age overtook him. It really looks as if among these tribes on the Upper Nile social development had been arrested at a stage that the Egyptians had traversed before their history began. There we have a living museum whose exhibits supplement and vivify the prehistoric cases in our collections.

Legends and philology, comparative religion and ethnography thus cast some light on tribal and dynastic movements, on spiritual and social revolutions in the Nile valley long before 3000 B.C. The archæologists' spade has revealed a concrete record of man's progress from savagery to civilization in the same region. It largely substantiates the traditions and deductions just summarized and at the same time it supplements them and enlarges their scope. But further it brings the reanimated body of most ancient Egypt into living contact with Europe's own remote past, infusing for a moment the glow of life into those pale lips.

In due course we shall deal in detail with archæology's revelations that disclose no abstract evolution but the interaction of multiple concrete groups and the blending of contributions from far-sundered regions. But first we must explain one point in the framework on which that picture must be based. Our knowledge of Predynastic Egypt, as it is called, is derived almost entirely from graves that contain no written document from which a calendar date might be obtained. We can do no more than guess at the length of time represented in each of the cemeteries, but thanks to Sir Flinders Petrie[8] we can arrange the graves in their relative chronological order. Petrie began by an analysis of the way in which the wavy ledges that once served as handles for certain types of jar in the course of years lost their true function as hand-holds and degenerated to mere decorative wriggles. Then he correlated the several stages of this orderly process with phases in the development of other associated articles of tomb-furniture. Eventually he worked out a numerical scale by which the position in time of any one grave relative to the rest can be defined in figures. The scale consists of the so-called sequence dates (S.D.) numbered from 30 to 80, which of course give no true idea of duration but merely mark successive points in the temporal series without offering any clue as to the intervals separating them. The accession of "Menes" is assigned to S.D. 77, the period between S.D. 30 and 77 is that ordinarily termed predynastic while the newly discovered Badarian civilization can be fitted in before that date.

Attempts have been made to give an approximate absolute value to S.D. 30 by estimating the length of the predynastic age. Sir Flinders Petrie, by a comparison of the number of prehistoric and pre-Roman dynastic graves near Diospolis, came to the conclusion that the predynastic and pharaonic periods were approximately equal in length. Hence S.D. 30 falls in the seventh millennium on the short chronology or about 10,000 B.C. on Petrie's. Peake and Fleure, using a different method of computation, assign to the predynastic period about half this duration. MacIver and Mace state that the total number of graves in a cemetery in use throughout the whole period approximates to 500. Assuming that the community whose graves are discovered was similar in size to a modern fellahin village, the period represented by the cemetery would be two thousand years, the adult death-rate averaging to-day one in four years. These figures seem altogether reasonable and we incline to equate S.D. 30 with 5500 B.C.

It may not be amiss here to recall how extremely new our knowledge of Predynastic Egypt really is. The whole volume entitled Egyptian Prehistory is scarcely thirty years old. Prior to 1895 the record in Egypt really began with the Pyramid age. Then Amélinau and de Morgan chanced upon the tombs of the First Dynasty while Petrie laid bare the still older series of graves that took us back to a time when only poor villagers ignorant of writing dwelt upon the banks of the Nile. The prefatory chapter of this volume entitled "Badari" was only opened in 1924, and is not yet available to the general reader. Incidentally the discoveries at that site did more than open a new chapter; they confirmed our reading of the older ones by providing the first stratigraphical confirmation for Petrie's system of sequence dating. In the settlement near Badari the ceramic types, assumed on the theory to be later, were actually found in ruined huts superposed upon those containing sherds of the supposedly older wares whose priority was thus demonstrated.

In Mesopotamia we stand in 1928 much where we stood in Egypt in 1898. Written records inscribed in cuneiform characters on tablets of baked clay together with the Greek compilation of native tradition composed by Berosus take us back as in Egypt for nearly five thousand years. But the earlier Babylonian dates are even more dubious than the Egyptian. Babylonia was only finally unified into a single kingdom by a dynasty founded by Amorites from the Semitic West termed the First Dynasty of Babylon. Its accession can be fixed by astronomical data to 2196 B.C. or nearly a thousand years after the unification of Egypt. Prior to that date Babylonia was divided up between more or less autonomous City States. Despite separatist ideals and linguistic or racial differences one or other of these cities from time to time was raised by energetic rulers to a position of hegemony or even paramountcy over more or less extensive portions of the land.

Now several tablets[9] drawn up in the latter half of the third millennium have been unearthed that purport to give a list of the cities that had from time to time attained the hegemony with the names and reigns of their rulers who enjoyed such imperial powers. The documents in question in fact offer a list of the high kings of Mesopotamia with the years of their reigns going right back to an event termed the Flood. Even before that catastrophe they name eight or ten antediluvian monarchs reigning in five or six distinct cities for fabulous periods and describe an age of Anarchy before "royalty descended from the heavens" that had lasted for 259,000 years since the Creation.

Could they be taken at their face value such lists would evidently give an exact framework for the chronology of Mesopotamia from its remote beginnings. Unfortunately, however, the tablets more than once present as consecutive dynasties that in reality were reigning contemporaneously in different parts of Babylonia and, when they come down to the earlier dynasties, give figures that are plainly fabulous. Overlaps between kings of the later dynasties can often be proved conclusively from business and other documents dated by regnal years and can be inferred from archæological evidence with high probability in the case of still earlier kings. The Prediluvian kings' reigns are all incredibly long. Even in the early historical period the years assigned to many kings are plainly impossible. So in the case of the First Dynasty of Kish, the first dynasty after the Flood, the twenty-three kings of this house are said to have reigned together 24,519 years 3 months and 3½ days! And equally fabulous reigns are attributed to some kings of the Dynasty of Awan, the fourth from the Flood and several yet later kings. Finally, documents bearing the names of the earlier rulers anterior to the Third Dynasty of Kish were till recently unknown.

A clear epoch was marked by the conquests of Sargon of Agade and Narâm-Sin, Semitic princes who reigned shortly after 2730 B.C. But before that there was only a vague "archaic" or "pre-Sargonic" period represented by archaic sculptures and inscriptions, principally derived from the French excavations at

Lagash or Tello—a period that rapidly vanished into the mythical. The earlier dynasts mentioned in the lists seemed scarcely better than mythical beings, and some of them actually figured in mythology.

Such was the position till in 1924 Mr. Woolley found an inscription of A-anni-padda, son of Mes-anni-padda, who appears in the tablets as the founder of the First Dynasty of Ur, the third dynasty after the Flood. Thus a single stroke of the pick brought a whole epoch, separated in the lists from the oldest previously known royal inscription by several obviously mythical dynasties, suddenly into the purview of sober history. The revelation of the high stage of material civilization already reached under, and perhaps even before this dynasty, together with the discovery of yet more archaic monuments inscribed with pictographs at Kish have now demonstrated that the traditions embodied in the dynastic lists rest upon a very solid historical basis, however distorted the chronology of the earlier periods must be. While there seems at the moment to be more or less general agreement that the First Dynasty of Ur was in power just before 3000 B.C., it is at present quite impossible to find any historical basis for the chronology of the earlier dynasties to say nothing of the antediluvian monarchs.

Tradition and legend throw, none the less, some light upon these earliest days of human life in the Tigris-Euphrates plain. In historical times the valley had been occupied by two distinct ethnic elements speaking different languages. The southern part, including the cities of Eridu, Ur, Larsa, Lagash, Umma, Adab, Uruk, and Shuruppak (Fara) was dominated down to the unification of the land under the first Dynasty of Babylon by a curious people known to us as the Sumerians (from Sumer, the Semitic name of the country)—a people distinguished by language and dress. At an early time the Sumerians had spread also over the northern part of Babylonia and even into Assyria as the archæological remains show. But there they were mixed with people speaking a Semitic dialect, akin to Hebrew, Assyrian, and Arabic. As early as the First Dynasty of Kish, the first after the Flood, we find persons with Semitic names among the rulers mentioned on the dynastic lists, and the towns of the north, Kish, Sippar, Akshak, Opis, and Agade (which latter gave its name in the form of Akkad to the whole of North Babylonia) were traditionally the homes of Semitic rulers.

Which of these elements was the oldest or the most influential cannot yet be determined. It had long been thought that the Sumerians were at least culturally the senior people since their language was long used, even after the final victory of the Semites under the Dynasty of Babylon, for ritual and magic formulæ. On the other hand, Eduard Meyer argued from the beards and headdresses of the oldest Sumerian deities, as represented in the earliest figured monuments, that the priority belonged to the Semites. Still more recently it has begun to look as if the Sumerians, as we know them in the third millennium B.C., were already a composite folk. Some of their traditions, such as the legend of the culture hero Oannes, a man-fish who swam up the Persian Gulf to Eridu, point to a southern origin and an arrival from overseas. But the cult of their deities on high places and the popularity of mountain animals on the oldest Sumerian seals suggest no less clearly that the Sumerians were a highland folk. Moreover, it is quite possible that in addition to Sumerians and Semites a third ethnic element had inhabited the land at very early times. For this the name " Subaræan " is coming into use, a designation properly applicable to a group of peoples spread along the foothills around the upper reaches of the Tigris and Euphrates in Assyria and North Syria during the third and second millennia. These people are in late documents described as of a fair complexion and in this respect are contrasted to the black-headed Sumerians. Now some authorities would see a reference to the presence of representatives of this stock in early Sumer in the Sumerian legend of the expulsion of the wicked " Martu " under Lugalbanda, a semi-mythical king of the First Dynasty of Erech (second after the Flood) who reigned 1200 years ! Other authorities, however, interpret Martu as Semitic Amorites from North Syria.[10]

The precise age and the relative extent of the occupation by the wicked Martu cannot be defined. But later events would warn us not to minimize the number of racial elements represented in Mesopotamia at the dawn of history. In historical times the land was overrun successively by the men of Awan, the Gutians, the Kassites, the Chaldæans and the Persians from the highlands to the north and east and by the Amorites and other Semitic tribes from the west.

The political and ethnic diversity thus revealed by Mesopotamian history and tradition is naturally a handicap to the archæologist. Instead of dealing with a unitary area and one or two compact groups as in Egypt he is confronted with a plurality of independent communities, and despite a growing measure of uniformity as time advances, it is often hard to distinguish between differences due to temporal causes and those embodying ethnic divergences. Moreover, the material available is extraordinarily scanty. Earlier excavators only preserved and published inscribed documents or objects of æsthetic interest. First during the current decade have Anglo-American expeditions at Kish and Ur revealed the tools and weapons in use under the first dynasties. These suffice to show that, even more than in Egypt, civilization had reached a very high level by the end of the IVth millennium B.C. that was not surpassed during the whole pre-Sargonic epoch. Of the prehistoric cultures that preceded, the first settlement in Mesopotamia was uncovered at Tell al'Ubäid in 1922. Then in 1926 another prehistoric settlement of a different type, this time a town where pictographic writing was already in vogue, was unearthed by Langdon at Jemdet Nasr near Kish and later at Kish itself. We cannot yet say how much the differences between the two groups of sites are temporal rather than local. Still we are probably justified in speaking of two prediluvian cultures comparable to the two predynastic cultures, since at Susa the two appear to be consecutive.

Having thus mapped out the historical world as it looked about 3000 B.C., it remains to mention one region which, though not yet historical for us could nevertheless already boast a civilization fully equal to that of Egypt or Sumer. That region is the Indus valley, where recent discoveries, still only known from newspaper paragraphs, have revealed a true urban civilization where writing and the other arts of civilization were already flourishing. The script is still undeciphered, and no legends can be plausibly used to interpret the new archæological data. In a later chapter we shall give some account of the remains. Here it suffices to signalize the existence at the dawn of history of a third province that ought to be historical.

CHAPTER II

THE SETTING OF THE STAGE

THE three oldest centres of true civilization named in our last chapter lie on a belt between the twenty-fifth and thirty-fifth parallel that constitutes the hottest and driest climatic zone in the world to-day. Extreme aridity and excessive summer heats are common features to the three ancient foci and to the intervening regions, though the causes are not precisely the same in each case. Geographically, too, a certain unity characterizes the whole region. Egypt, Sumer, and the Punjab lie on the valleys of great permanent rivers that traverse a more or less continuous desert plateau. The plateau is of course interrupted by marked physiographical features. The Sahara which constitutes its western section is by no means flat; its surface is interrupted by quite considerable ranges and depressions that sometimes fall below sea-level. The Arabian desert forms the natural continuation of the Sahara, but is separated from it by the rift of the Nile valley and is itself broken by the great chasm of the Red Sea. East of that gap and the high gable beyond it the desert slopes away to the depression of Mesopotamia and the Persian Gulf. The farther side of the hollow is bordered by the Zagros and the parallel chains of Western Persia that frame a still more elevated desert, belonging geographically to the Anatolian-Armenian tableland, but climatically nearer to Arabia. And then at the other extremity the plateau breaks down again to the low sweltering plain of Western India. Thus from the Atlantic coasts to the monsoon region of Central India there is a continuous zone of desiccated countries, which, however much diversified, are connected without any insurmountable physiographical transverse barrier to impede intercourse. The unity of the strip between the Atlantic and the Tigris at least is of such an order as to justify the employment of a common term Afrasia to denote the whole region.

On the south the Sahara is fringed with savannah passing over into tropical forest while farther east and in Southern Arabia the monsoon rains promote the growth of a jungle border. Then the Indian Ocean forms the southern limit of our zone and beyond the Indus it is again hedged in by the monsoon forest. The northern frontier would seem to be provided by the Mediterranean but climatologically the winter-rain regions of Spain, Italy, and Greece approximate more closely to the Sahara than to the cyclonic lands north of the Pyrenean-Alpine-Balkan ridges. And physiographically the last-named chains constitute a more real dividing line than the inland sea. So in Asia, although the desert extends north of the Elburz into the Turanian Basin, it is the continuation of the same lines of folding in the Anatolian massif, the

Caucasus and the Elburz and then in the Hindu-Kush and the Himalayas, that forms the true northern border of our zone. None the less, conditions in the Central Asian desert, particularly in the Tarim Basin, are not very different.

At the present time the whole region suffers from a terrible insufficiency of rain that makes it virtually uninhabitable outside the range of irrigation channels that tap the great rivers crossing it. The Atlantic cyclones that water Northern and Central Europe reach the Mediterranean only in winter and miss the Sahara altogether. The same winter storms do indeed reach Mesopotamia, the Iranian plateau and even the Indus valley, but they have been so largely drained by crossing the highlands of Palestine-Syria that the precipitation farther east is inadequate save along a narrow belt in North Syria, and even the high country of Central Persia is virtually desert. At the same time a complicated set of causes prevent the precipitation of the monsoon rains on the Indus basin, which relies on cyclonic rain from the West.[1] In such conditions the whole region, except for the river valleys that cross it, can support only a sparse and exiguous population, who have little encouragement to cultural progress and have in fact remained backward.

But these conditions did not reign at the time our story opens. While Northern Europe was covered in ice as far as the Harz, and the Alps and the Pyrenees were capped with glaciers, the Arctic high pressure deflected southward the Atlantic rainstorms.[2] The cyclones that to-day traverse Central Europe then passed over the Mediterranean basin and the northern Sahara and continued, undrained by Lebanon, across Mesopotamia and Arabia to Persia and India. The parched Sahara enjoyed a regular rainfall, and farther east the showers were not only more bountiful than to-day but were distributed over the whole year, instead of being restricted to the winter. On the Iranian plateau the precipitation, although insufficient to feed extensive glaciers, filled the great hollows that are now salt deserts with shallow inland seas whose presence tempered the severity of the climate.

Such are the deductions of climatology and geology confirms them. The dry wadi beds traversing the Sahara, entering the Nile on either side and draining the Arabian plateau, testify to the erosive power of the rain-waters they once carried off. In Persia and Baluchistan,[3] the high strand-lines encircling the old lakes bear witness to the flooding of those inland seas as just forecasted and into them flowed many streams that are now lost in the desert.

We should expect in North Africa, Arabia, Persia, and the Indus valley parklands and savannahs such as flourish to-day north of the Mediterranean at a time when much of Europe was tundra or wind-swept steppe on which the dust was collecting as loess. While the mammoth, the woolly rhinoceros, and the reindeer were brousing in France and Southern England, North Africa was supporting a fauna that is found to-day on the Zambesi in Rhodesia.[4] The Algerian contemporaries of our mammoth-trappers were hunting the Mauretanian rhinoceros, the African elephant, the gnu, the buffalo, a huge wild ox, the zebra, and perhaps another equid, gazelles, deer, Barbary sheep, and other parkland ruminants as well as the bears, jackals, cave-hyenas, panthers, and lions that preyed thereon.[5] These animals have been depicted for us by their hunters on the rocks of the Saharan Atlas, and in Southern Oran[6] (Fig. 1) hippopotami, camels, and ostriches are also depicted. In the very heart of the Sahara at In-Ezzan,[7] just south of the Tripolitan borders where to-day not a beast nor a tree is to be seen, are paintings of bulls, oryx, and sheep as well as human figures and dogs. Similar

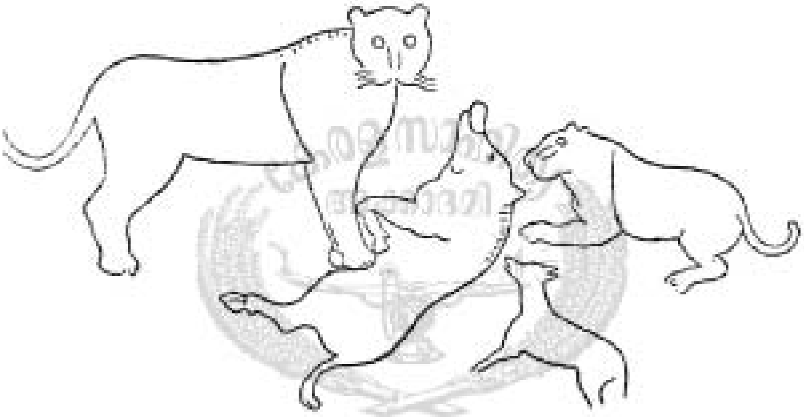


Fig. 1.—Rock engraving in the Sahara at Kef Messiouer near Guelma, Algeria.

drawings have been reported from the vicinity of Lake Chad, the Ouenat oasis 600 miles west of Halfa, the Sudan, Somaliland, and even Arabia. So as far as the archæological evidence goes it confirms the inferences of meteorology. When Europe was more or less ice-bound, the cyclone belt was displaced southward and approximated to the latitudes where the oldest civilizations of the world were born. And it must be recalled that the cyclone belt offers a climatic environment most favourable to human energy.[8]

The process of desiccation whose deplorable results we see to-day should have been only gradual. Even after the main European ice-sheets had retreated, the so-called " Boreal " climate reigning in the north, as deduced from the flora and fauna preserved in peat-bogs and on raised beaches, implies a storm track travelling much farther south than to-day so that at least the northern Sahara would have benefited from a Mediterranean rainfall. First with the onset of the warm moist phase that Swedish geologists term " Atlantic ", did the cyclones begin to settle down into their present northerly track and to desert the north of Africa.

The pleasant grasslands of North Africa and Southern Asia were naturally as thickly populated by man as the frozen steppes of Europe, and it is reasonable to suspect that in this favourable and indeed stimulating environment man would make greater progress than in the ice-bound north. In fact it is somewhere in this region that many would locate the first cradle of *Homo sapiens*.[9] Lower Palæolithic men have left their hand-axes all over North Africa from Morocco to Egypt, in Somaliland, in Palestine and Syria and in many parts of India. These agree so exactly in form with those made in Western Europe during the last interglacial and before it that one assumes a more or less uniform population, of course very sparse and physically very primitive, common to Western Europe, Africa, and Southern Asia. Implements of Mousterian type that were made in Europe principally during the earlier and culminating phases of the last glaciation have a very similar distribution and at least in Syria seem to belong to the same geological horizon, being associated with remains of a pluvial period. But that queer perversion of the human type, specialized north of the Eurasiatic spine during the ice ages, the Neandertal species that made Mousterian implements in Europe, has not been found in our area except in Palestine.[10] On the contrary, Mr. Leakey has recently found human remains that are certainly not Neandertal, but may well in the end find a place in the main trunk of our family tree, associated with implements of Mousterian type in Kenya. In any case the African Mousterian exhibited a distinct superiority over its European counterpart. The North African Mousterians, in addition to the monotonous series of points and side-scrapers manufactured by the Neandertal Europeans, could make very neat tanged points—arrow or javelin-heads. This specialized Mousterian found from Morocco to Egypt is designated Atérian.[11] And about the same time, or even earlier, points shaped rather like a laurel-leaf and worked on both sides quite in the manner of the Hungarian proto-Solutrean were current (Fig. 2). The latter industry is to some extent affiliated to a counterpart of our Acheulian and has been termed by French archæologists the 'Sbaïkian. It was not confined to North Africa since very similar implements are found south of the Equator.

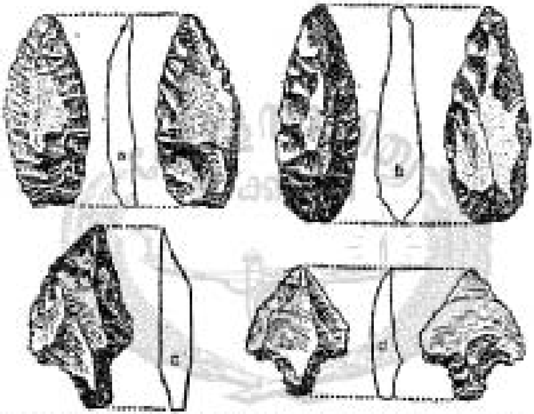


FIG. 2.—'Sbaïkian (*a*, *b*,) and Atérian (*c*, *d*) points, Tunisia. *a*, $\frac{1}{2}$; *b*, $\frac{1}{4}$; *c*, *d*, $\frac{1}{3}$.

The inference from these facts is that, while in the north an aberrent branch of the human stock was being evolved through specialization to meet the rigorous conditions of North-Eastern Europe and Upper Asia during the glacial periods, the desiccated belt of to-day was the cradle wherein our remotest direct ancestors were developing along more normal lines.

By the pluvial period that is to be equated with the last, or Würm, ice-age in Europe at any rate, the desert belt was undoubtedly occupied by men of modern type as contrasted with the extinct species of Piltdown or Neandertal. These have left their implements throughout Little Africa, in Palestine and Syria and also in Egypt—implements which are allied, and in some cases probably ancestral, to those introduced into Europe with the first neanthropic stocks in Aurignacian times. Of the makers of these tools nothing can be asserted in default of adequate skeletal material. But we may at least infer that they belonged to no single race but already embraced a diversity of types. Even in Europe three distinct races are represented by Aurignacian times; *a fortiori*, therefore, must the population of the human reservoir whence the Aurignacians were recruited have presented a variety of types.

The cultural remains from our area when better known may be expected to throw more light on this assumed differentiation. Already they can be distinguished from the contemporary Aurignacian, which shows more highly specialized types of tool and an individual art. An even greater internal diversity will surely come to light with the multiplication of discoveries, but at present it is customary to group together all the Upper Palæolithic industries of North Africa, Syria and even the northern shores of the Mediterranean under the common designation Capsian—a term derived from Gafsa in Tunisia where the individuality of the industry was first recognized. Hints of diversity within the complex are already provided by the discovery of some primitive bone harpoons[12] in the cave of Antelias on the slopes of Lebanon; for no comparable bone-work is known from North Africa, and even in Europe the harpoon does not appear till a later stage.

The Capsian tools are made from blades. Though knives finely worked on the back, scrapers, rounded or on the ends of blades, awls and even gravers or burins are common, the types are less fine and varied than those of the Aurignacian of Chatelperron (Fig. 3). Gravers in particular are all simple and not very common. But the great feature of the Capsian flint work is the tendency exhibited by all tools to diminish in size till in the later phases true pigmy implements are absolutely predominant (Fig. 4). No less surprising is the love of

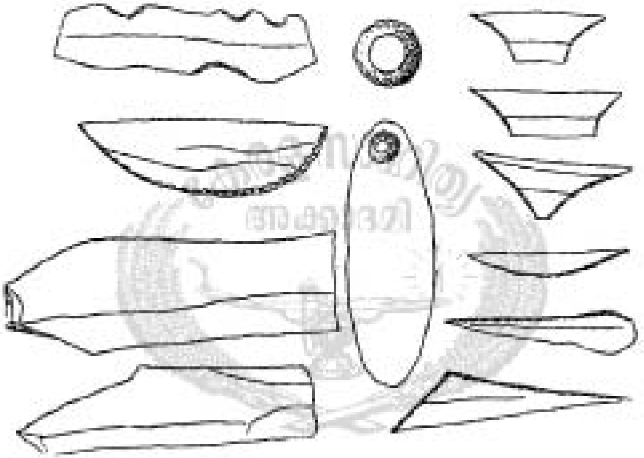


FIG. 3.—Capsian I flints and ostrich-egg disc, Aïn Mouhaâd, ½.

geometrical shapes that becomes ever more accentuated as time goes on (Fig. 4). Bone-work was apparently not far advanced. Apart from the Syrian harpoons no instances of finer bone-work have survived, and certainly nothing comparable to the masterpieces of carving executed by the Aurignacians of Europe has come down to us from south of the Alps. On the other hand the Capsians of North Africa were skilled at cutting little discs out of ostrich shell and perforating them for use as beads (Fig. 3). On the coasts of North Africa and of Syria such Capsian remains are found in caves as in Europe. In Southern Algeria, on the other hand, the sites are principally enormous heaps of kitchen-refuse consisting largely of the shells of snails and freshwater mussels. The animal remains noted on p. 25 have been collected in such stations.

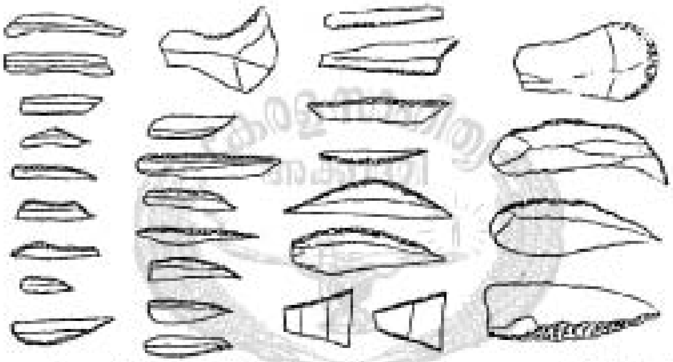


FIG. 4.—Later Capsian (Getulan) flints, Morsotte and Ali Bacha, ¼.

But besides the industrial remains from caves and middens and stray surface finds of flints, the contemporaries of our reindeer-hunters have left other and more lively monuments of their sojourn in regions now desolate. Like their European contemporaries they have adorned the rock-faces and cave-walls with magical engravings and paintings, expecting from the creative act of the artist a realization in the actual world of the good things depicted. These monuments[6] not only give us a far more vivid picture of life in North Africa during the pluvial period than any geological or archæological excavation but indicate quite distinctly the existence of a multiplicity of artistic traditions that are best understood in racial terms. At the same time the drawings are by no means all contemporaneous. In a few cases one set of drawings have been superposed on another older series whose authors had presumably been long forgotten before the later ones were executed.[13] Or differences in fauna, the absence of extinct species or the appearance of modern intrusive beasts, may mark some groups as later than others. Again the extent of the weathering varies considerably, the older drawings having suffered much from blown sand or even rain, while the newer ones are relatively fresh. We cannot, then, label all rock-paintings or petroglyphs palæolithic or even very ancient ; some at least are recent enough to depict men with guns and to include Arabic graffiti. But there remain some which by the correspondence of their fauna with that of the palæolithic sites and its contrast with that of to-day or by their agreement with indubitably palæolithic works in Spain must be assigned to the pluvial epoch that concerns us. And others belong to the immediately succeeding epipalæolithic period when climatic conditions were only beginning to grow unfavourable. The latter are on the whole more conventionalized. In each school the tendency had been at first to make the representations as lifelike as possible, their magic efficacy depending upon their realism. With the progress of thought from concrete to abstract the artist-conjuror found it enough to sketch the desired object in a sort of shorthand in order to create it in the real world.

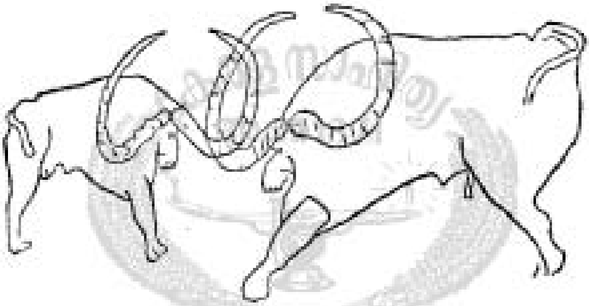


FIG. 5.—Petroglyph depicting the extinct *Bubalus antiquus* on the rocks near Er Richa, Oran. The larger buffalo is 6 ft. high.

At the moment at least two distinct schools have left their records on the rocks of North Africa and also in South-East Spain and both can be traced south of the Equator. There is in the first place the widespread series of naturalistic or seminaturalistic engravings generally on exposed rock-surfaces. There are examples in Morocco and Algeria just north of Lake Chad, in the Ouenat oasis, in the Eastern Sudan, on the cliffs overhanging the Nile and even in Arabia and India. These are very far from constituting a chronologically uniform group, and it is altogether uncertain whether the Arabian and Indian petroglyphs belong to this family at all ; even in North Africa itself the attribution to a single "school" is naturally by no means established. But some engravings from the Saharan Atlas undoubtedly constitute a well-defined group.[8] These depict, with much verisimilitude but always in outline and without any attempt at regular composition, buffaloes, giraffes, elephants, hippopotami and rhinoceros and other animals that have long migrated to the south. Even the camel is represented in some cases though that beast was extinct in North Africa by early historical times. Besides animals men are figured wearing a feathered crown and armed with bows and arrows and carrying figure-8 shields. Kuhn[14] has justly compared this series to the Aurignacian drawings from the French caves which likewise use bare outline and make no attempt at grouping, but the African figures are always active

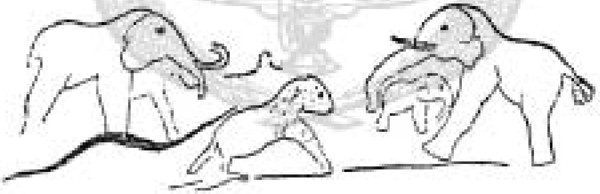


FIG. 6.—Rock-engraving showing elephants and leopards, near Géryville. The whole scene is 25 ft. long.

while placidity and repose is characteristic of the Aurignacian art. So that the independence of the African school is attested on purely stylistic grounds.

This series gives place to another less naturalistic group in which domestic cattle and goats appear side by side with ostriches, gazelles, and rare lions—a fauna that plainly denotes a climate much moister than to-day. Often the outlines are formed by battering the rock rather than by engraving. As far as is known to-day the more easterly groups in the Sudan and Egypt can at earliest only be assigned to the younger series if a generic connection be admitted at all, but curiously enough both styles seem to recur in South Africa.

The second series is constituted by lively paintings in red or brown. The best and most famous representatives of this family come from South-East Spain. But the East Spanish art had parallels, too close to be accidental, in the earliest group [15] of so-called "Bushman" painting in South Africa associated with an almost Capsian industry. Links between Spain and South Africa are provided by analogous paintings in Tunisia, the Central Sahara, and near Lake Tanganyika. The uniformity of artistic convention throughout this area combined with the community of flint tools means that East Spanish and "Bushman" art are merely extreme outposts of a great province whose centre must have lain somewhere in the Sahara. In this school the painter aimed at filling his figures with movement and loved to depict regular scenes—hunts, dances, and combats.

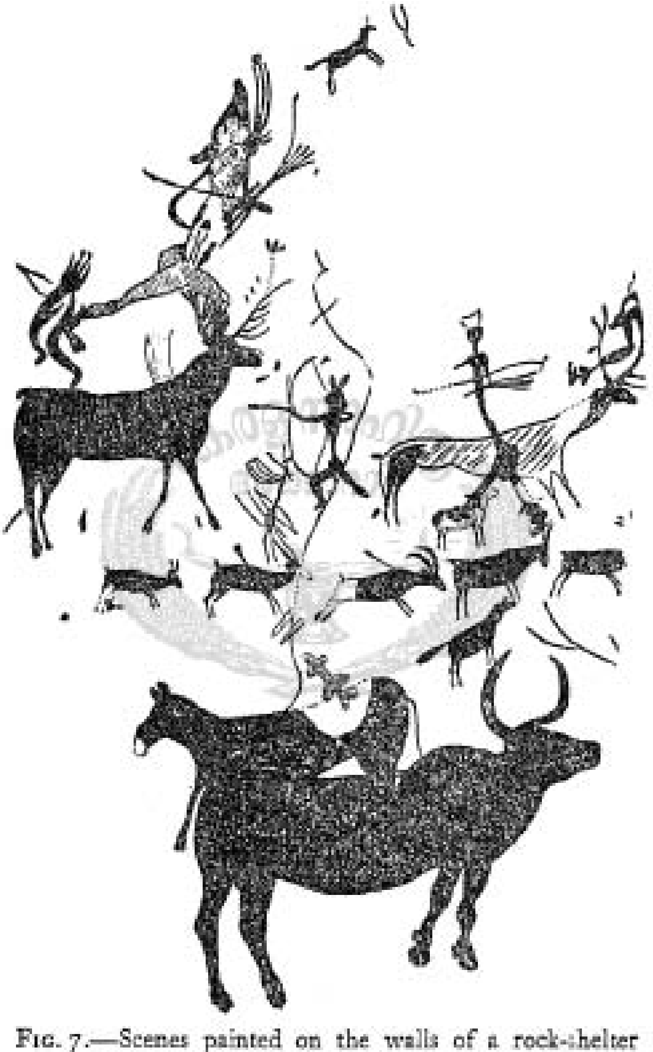


FIG. 7.—Scenes painted on the walls of a rock-shelter near Alpera, South-East Spain, $\frac{1}{3}$, after Breui.

The inclusion in the Spanish scenes of a rhinoceros and later of a reindeer suffices to demonstrate the pleistocene age of the art-galleries there just as does the situation of pictures at In-Ezzan. On the walls of these Spanish cave-shelters we see men wearing caps or feather crowns, but otherwise naked save for tasseled bands below the knees ; the women wear a long bell-shaped skirt. The men are armed with boomerangs, lances, and perhaps maces, but the distinctive weapon is the bow and arrows. In some scenes the dog assists in the hunt (Fig. 7).

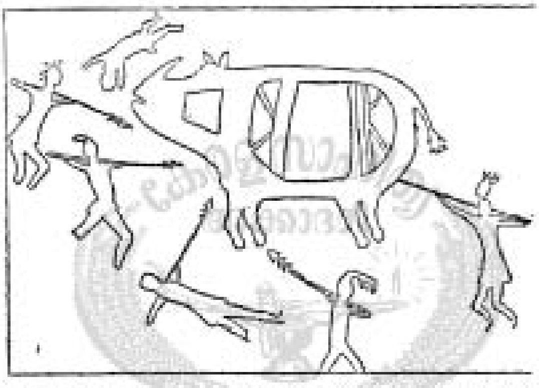


Fig. 8.—Rock-painting from a shelter in Khaimer Range (after *J. Asiatic Society*, Bengal, 1883, no scale given).

The African school of painting like that of carving fell into decadence artistically. Everywhere the figures became conventionalized and in Spain survive in barely recognizable shapes into the Copper Age.

A possible pendant to the East Spanish and African paintings is to be found also in India. In rock-shelters in the Khaimur range near Mirzapur [16] is painted a scene representing a rhinoceros hunt (Fig. 8). Outside a cave near Singanpur in the Raigarh District (Bellary)[17] are depicted a series of small animals, one alleged to represent a wallaby. The age of such works of art is quite uncertain. The rhinoceros has certainly been extinct in Central India for several centuries, but is by no means necessarily quaternary. The many-barbed harpoon depicted in hunting scenes looks a late sort of weapon but need be no more than a wooden shaft armed with microliths that might be extremely ancient. Taken in conjunction with the implements of Capsian types also found in India these paintings really do suggest some ethnic community with the more westerly sections of the pluvial cyclone zone. The community postulated might be best understood if we imagine a continuum of hunting tribes spread very thinly over the whole belt defined at the beginning of the chapter. We should then have to figure a loose chain of interrelated bands of hunting folk ranging all along the temperate grassland of North Africa and Arabia and extending even into India on

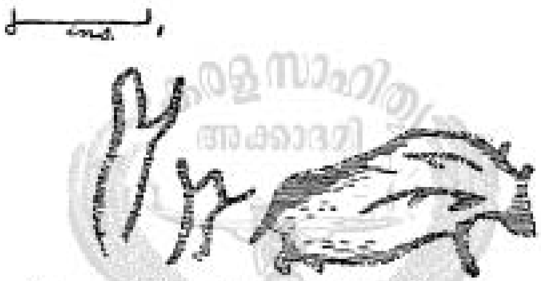


Fig. 9.—Painting from a shelter at Singanpur.

the one hand and into South-Eastern Spain on the other. This population would belong presumably to the so-called Eurafrican, Mediterranean, or Brown race whose representatives appear in historical times in occupation of most of our zone.[18]

Of the continuum of peoples postulated for late pleistocene times, however, only the western branch can be said to be really known to us. It was, like the European Aurignacians, apparently a people of hunters and shell-gatherers. Unlike their European contemporaries they were apparently assisted in the chase by the dog, man's oldest companion.[19] Of other domestic animals there is no certain evidence since the date of the pictures of tame wethers is still undecided. Nor

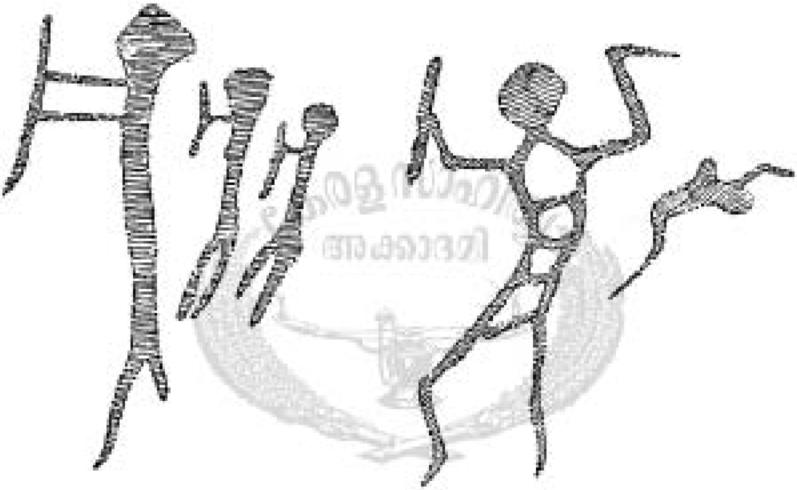


FIG. 10.—Painting from a shelter at Singanpur.

are there any indications of agriculture. Yet the hunters were already provided with mechanical devices so advanced as the bow, and used boomerangs, spears, and maces. They were no longer naked savages : even the men wore a short mantle and decked their heads with plumes, while the women draped a skirt about their loins. Their spiritual life found expression in organized orgiastic dances and in graphic art.

Doubtless there existed other groups during the long period called the last Ice Age ; for at its close we are already confronted with a diversity of racial types. We know something of the less favoured hunting tribes of Europe : the Aurignacians, their kinsmen of Předmost and the Solutreans. Isolated finds from the caves in the Caucasus, from the upper reaches of the Jenisei in Siberia and from the loess of the Shensi province of China reveal stragglers possessed of a cognate culture living north of the Eurasiatic spine. On the southern edge of the Sahara recent discoveries have disclosed living in Kenya, perhaps at an even earlier date than our Saharan cultures, a people physically not unlike some Aurignacian skeletons and manufacturing blades and scrapers of obsidian that recall Capsian shapes. This folk had already discovered the art of pot-making and could manufacture truly excellent vases that sometimes even had flat bases. It is perfectly possible that in the then habitable tablelands of Iran and Anatolia that are still absolutely unexplored from the standpoint of palæolithic archæology, other human groups were living and had made great progress.

Those regions are reputedly the home of those round-headed types, usually grouped together under the name of the Alpine Race. Their previous history cannot be traced on the southern grasslands, and many therefore seek it farther north. Finally the possibility must be born in mind that, while hunting folk on grasslands and tundras were elaborating a flint industry based on blades, in a different environment other groups were carrying on and improving the older core-industry represented in the Chellean and Acheulian hand-axes that had been characteristic of Lower Palæolithic times. No skulls certainly attributable to the makers of such Lower Palæolithic implements have survived to show that they were not on the direct line of ascent to modern man. It is quite possible that the makers of the hand-axes were not so much hunters as gatherers of roots and berries—a mode of life that might, more easily than the pursuit of game, lead on to agriculture. The axes and hoes that characterize the neolithic period that we shall shortly reach must surely be connected somehow with the heavy tools of Lower Palæolithic times. Hence one might expect to find somewhere groups, retaining the core tradition of the hand-axe, evolving contemporaneously with the Capsian and other blade-using hunters but on divergent lines.

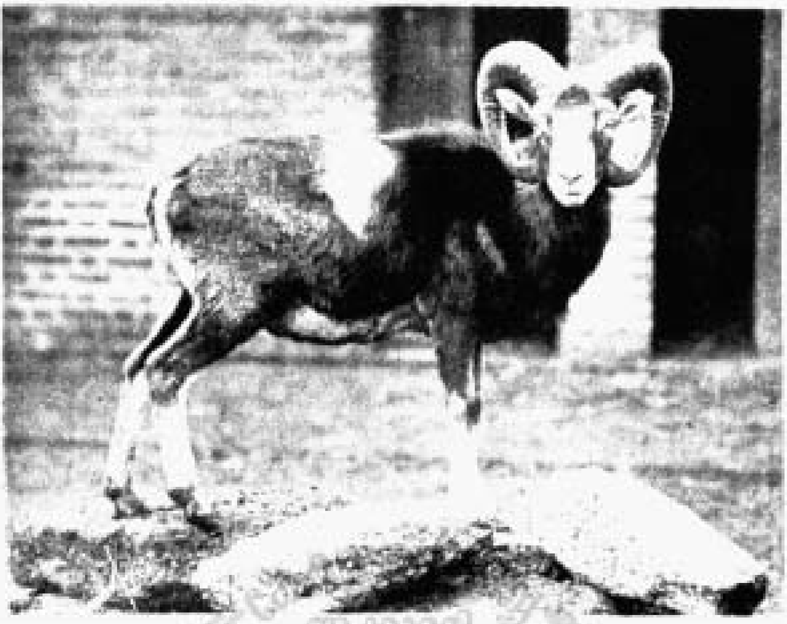
Such hypotheses are still unsupported by one shred of direct evidence. But they are perfectly legitimate and in some cases seem almost inevitable in order to explain the facts observed later.

For now we are on the brink of the great revolution, and soon we shall encounter men who are masters of their own food supply through possession of domesticated animals and the cultivation of cereals. It seems inevitable to connect that revolution with the crisis produced by the melting of the northern glaciers and consequent contraction of the Arctic high-pressure over Europe and diversion of the Atlantic rain-storms from the South Mediterranean zone to their present course across Central Europe.

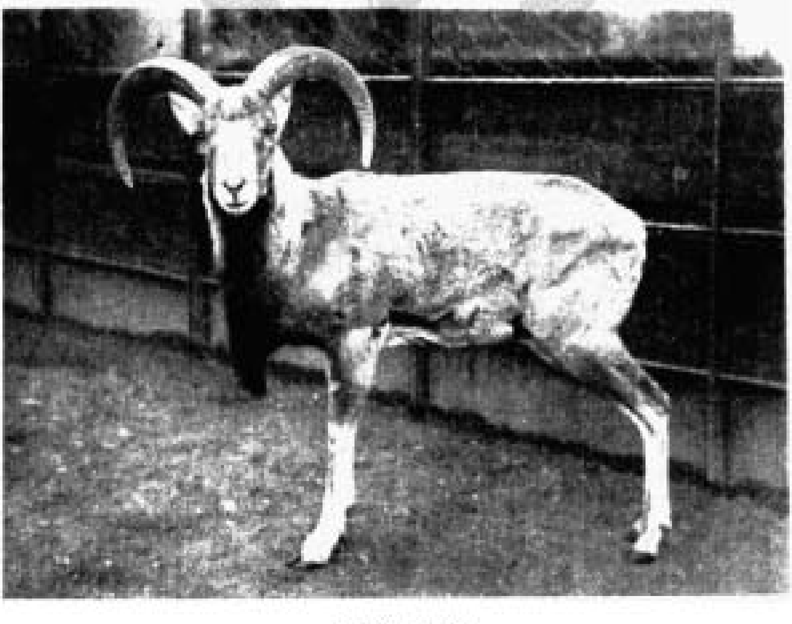
That event would certainly tax the ingenuity of the inhabitants of the former grass-land zone to the utmost. Enforced concentration in oases or by the banks of ever more precarious springs and streams would require an intensified search for means of nourishment. Animals and men would be herded together round pools and wadis that were growing increasingly isolated by desert tracts, and such enforced juxtaposition might almost of itself promote that sort of symbiosis between man and beast that is expressed in the word "domestication". For the situation thus engendered to produce the desired effects it is clearly necessary that the men who had to cope with the crisis should find at hand the cereals and animals apt for domestication.

From the present distribution of wild grain[20] it has been argued that the cultivation of cereals probably began in Asia. Wild barley is as a matter of fact found in Asia Minor, Transcaucasia, Turkestan, Afghanistan, Persia, Palestine and perhaps Arabia Petræa. But it has also been detected in Marmarica, implying an extension of the natural habitat of the ancestral plant from Palestine across the Isthmus of Suez and the Delta during the pluvial period. Moreover, Vavilov, arguing not from the discovery of stray ears of wild barley but from the number of varieties cultivated, would place another centre of domestication in Abyssinia where, however, no wild barley has yet been found. The wild ancestor of emmer wheat (*Triticum dicoccum* with fourteen chromosomes) is alleged to grow native in Western Persia and Mesopotamia, in Syria and Palestine. Obviously in the pluvial period it might have grown still farther south on the edge of the Nile rift where the geological conditions are the same as in Palestine. The uncultivated form of another variety of wheat, *Triticum monococcum* or dinkel, grows in the Balkans, Asia Minor, North Syria, and Kurdistan on the frontier of Persia. Some botanists hold that common bread wheat, *Triticum vulgare*, is the result of a cross between the two varieties just mentioned ; in any case no wild ancestor is known for it. Hence on the present distribution of the cereals, especially wheat, Asia does seem to have a better chance of being the original centre than North Africa. But the present distribution is thoroughly deceptive. In the pluvial period, or at a certain stage just after it, North Africa must have enjoyed precisely the same climatic conditions as those that nourish the wild wheats and barleys in Hither Asia to-day.

A better argument is founded upon the animals, especially the sheep.[21] No wild sheep exists in Africa; for the so-called Barbary sheep does not really belong to the genus. On the other hand three wild sheep exist in Asia all of which have given rise to breeds of domestic sheep. The mouflon, *Ovis musimon*, lives north of the Mediterranean in Corsica and Sardinia and once had a wider distribution in continental Europe. A slightly different variety inhabits the highlands of Hither Asia from Anatolia to the Elburz and the Zagros. The Asiatic mouflon appears domesticated on a Sumerian vase dating from the beginning of the IIIrd millennium B.C. (Plate XX*a*), but his European congener was only tamed at a relatively late date in European prehistory. The oldest domesticated sheep found in the Swiss lake-dwellings and other early deposits in Central and Western Europe, *Ovis palustris*, is the domesticated descendant of the Asiatic urial (*Ovis vignei*), a long-tailed sheep. The home of this variety is the northern slopes of the Elburz, Turkestan, Afghanistan, Baluchistan, and the Punjab. The oldest Egyptian sheep, *Ovis longipes*, is said to belong to the same stock. The third variety of Old World sheep, the argal, lives to the east of the urial. If one may argue from the present distribution of the animals, it would be clear that the sheep at least was introduced into Africa and into Europe from Asia. Still it is perfectly possible that in the pluvial period some sort of mouflon or even a urial lived in North Africa. Though Asiatic or European species are conspicuously rare in the pleistocene fauna of North



MOUFLON RAM



URIAL RAM

Africa as enumerated on p. 25, it would be possible to point to rock-drawings of camels as evidence that some such types were represented there. Moreover from Tanganyika territory come reports of a fossil sheep found in a late pleistocene context near Oldoway.[22] And there are of course the mysterious petroglyphs depicting tame wethers obviously belonging to the species *Ovis longipes*.

കേരള സാഹിത്യ അക്കാദമി

CHAPTER III

THE OLDEST FARMERS

FACED with the gradual desiccation consequent upon the reshift northward of the Atlantic cyclone belt as the European glaciers contracted, three alternatives were open to the hunting populations affected. They might move northward or southward with their prey, following the climatic belt to which they were accustomed ; they might remain at home eking out a miserable existence on such game as could withstand the droughts or they might, still without leaving their home-land, emancipate themselves from dependence on the whims of their environment by domesticating animals and taking to agriculture.

The archæological record of the sub-pluvial epochs is not very clear. Still we can detect evidence both of a progressive degeneration of culture in North Africa and of migrations from the desiccated zone.

Among the hunting folk of the Capsian culture the later industrial stages that should correspond more or less to the European Magdalenian are distinguished by the progressive reduction in size of the flint tools and conventionalization of art. Both phenomena seem to be signs of degeneration among groups oppressed by adverse conditions and unable to cope with them.

Everywhere we find those puzzling little geometrically shaped pigmies the mode and purpose of whose manufacture elude us. The same types appear in the final Capsian from Spain right across North Africa to India (Fig. 11), and this parallelism illustrates more clearly than anything else the cultural continuity of the whole belt during late pluvial times. Ultimately the same types spread from Spain across France to Great Britain and the Baltic Lands, and along another line presumably

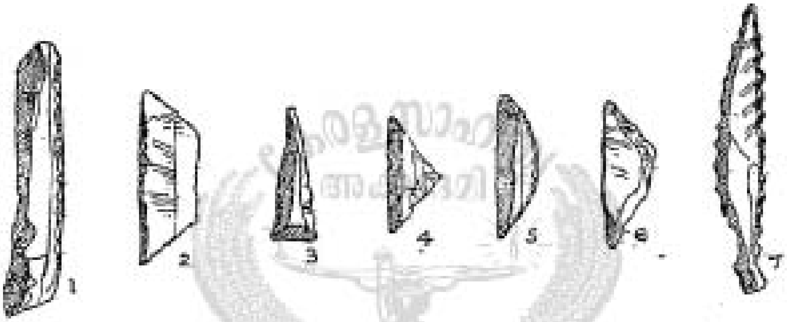


FIG. 11.—Microliths from Vindhya Hills, India, after *British Museum Stone Age Guide*, natural size.

from Syria, across South Russia into Poland and Lithuania. Moreover, at least in Western Europe, the makers of the pigmy flints took with them the dog as a companion and the conventionalized art that had evolved in North Africa and Spain. Here we are evidently dealing with a northward migration [1] to escape the consequences of desiccation such as we had deduced as likely from a consideration of climatic shifts. Perhaps about the same time there was a corresponding migration southward that brought to South Africa an analogous set of pigmy flints, the use of ostrich-shell discs as beads and again the dog.[2]

None of these migrants had passed out of the food-gathering stage. And others, conveniently termed Getulans, remained in North Africa, living by hunting and snail-gathering, making pigmy flints—but no more gravers—and carving conventionalized pictures on the rocks. These do not seem the authors of any economic revolution, the discoverers of agriculture or the tamers of animals, but rather stagnant unprogressive savages. Yet there begin to appear among the microliths, sometimes even with gravers, coarse potsherds,[3] sickle-teeth,[3] barbed or tanged arrow-heads [3] and probably also polished stone axe-heads or "celts"[4] [5] and ring-shaped mace-heads [4] of ground stone. These things are marks of the so-called "neolithic" civilization of the first food-producers. But the manner of their appearance in Tunisia suggests much rather gradual borrowing from without than local invention. Nor were conditions in Little Africa particularly favourable to the rise of the new economy

Farther east in Egypt conditions were better and the record is fortunately clearer.

Egypt appears to-day above all as a corridor of fertile and habitable country drawn athwart the desert zone which divides the grasslands of the Sudan from the coastal belt of Mediterranean rains. This character is due exclusively to the Nile which is not only itself a moving road but which also fertilizes by its annual inundation a strip of the valley on either bank. Yet Egypt is no physiographical unit. The Delta, or Lower Egypt, is an open and once marshy plain continuous with the coastlands of Libya and Palestine and accessible from both quarters and from the sea. Upper Egypt, on the contrary, is a narrow rift bordered on either hand by rocky walls above which lie the now arid tablelands of the Libyan and Arabian deserts. Yet these rock walls are pierced at many points on either bank by the gorges of old streams that drained the plateaux on the east and west during the pluvial period. These dry watercourses constitute entries to the valley for the caravans coming from the Red Sea coasts or from the chain of oases that lie in a depression parallel to the Nile's course.

To-day the country south of Cairo is virtually rainless and would be utter desert save for the annual irrigation by the Nile flood. But in the pluvial period conditions[6] must have been very different. The valleys of the *wadis* running in from the high desert must have been clothed with spring grasses, including quite possibly wild cereals, and this herbage must have nourished herds of wild asses, Barbary sheep, urus, antelopes, gazelles and giraffes and the lions and leopards that preyed thereon. Even in the historical period hunts for such animals are depicted on the walls of Middle Kingdom tombs. In the valley itself spread extensive swamps, fringing the river, and elephants, kudu, and two kinds of wild pig roamed in the jungle besides the hippopotami, crocodiles, and wild-boars that survived till recent times. To find a floristic and faunistic environment comparable to that encountered by the most ancient Egyptians one must travel far upstream into the monsoon zone. On the White Nile the traveller will find, growing wild, plants that survived in historical Egypt only in gardens.

Hunters from the high plateaux had been visiting the valley from Lower Palæolithic times leaving their implements on the high terraces on either side. Quite recently a branch of the Lower Capsian industry has been recognized in the valley itself at Sébil,[7] just above Gebel Silsileh, and along the channels leading to the Fayum. It is only to be expected that, as the droughts became more frequent and acute on the surrounding deserts, the influx of nomads towards the well-watered valley would be accelerated. And such would be faced with conditions calculated to induce the change from a parasitic to a productive life. Mr. Perry[8] has stated in glowing terms Egypt's claim to be the cradle of agriculture.

Granting the existence on the edges of the valley of the nobler grasses, ancestors of wheat and barley, the idea of their deliberate cultivation would be suggested on the banks of the Nile as nowhere else. The annual flood and the rich soil it deposited would cause grains dropped on the ground to germinate without human intervention. "The Nile valley," writes Perry, "would, by means of its perfect irrigation cycle, be growing wheat and barley for the Egyptians. . . . All that would be needed, would be for some genius to think of the simple expedient of making channels for the water to flow over a wider area." Modern observers have described, among the Nilotic tribes of the Sudan, a mode of life that might well represent the stage intermediate between the food-gathering culture of the Capsian hunters and the settled agriculture of the oldest sedentary inhabitants of Egypt. The Hadendoa lived last century as nomadic herdsmen in the eastern desert. But they maintained more or less permanent villages within reach of the flooded lands to which they would repair in force in the late summer. Then they scattered millet seeds on the wet mud left by the recent inundation and awaited the harvest. Such people, fixed south of the belt of extreme desiccation, have perhaps preserved for us precisely the mode of life attributable to the immediate ancestors of the Badarians, the oldest agriculturists certainly disclosed to our gaze by archæology in the Nile valley or anywhere else.

When the earliest food-producers settled at Badari,[9] rain still fell regularly as high up the Nile as Assiut. Tall trees of kinds unknown to Egypt in historic and later prehistoric times grew at the foot of the desert cliffs; their roots are found to-day among the huts and graves of the prehistoric settlement. Here a community of farmers made their village on the edge of the flood lands among the groves at the foot of the cliffs.

Physically [10] the Badarians were a short and extremely slender race with small, narrow skulls. They thus closely resemble the later predynastic Egyptians but are a trifle more negroid and in some respects show affinities to early Indian races particularly the Dravidians, the Kolarians, and even the Veddahs of Ceylon. Thus they are offspring of that ancient racial continuum whose extension throughout the desert zone has been inferred from communities of industrial remains.

Culturally the Badarians were a whole stage removed from the savagery of the Capsian hunters and were indeed superior to any "neolithic" community in Northern Europe. They lived in regular villages, cultivating barley and emmer and probably raising domestic animals, though of course they also hunted and fished. They clothed themselves in garments of linen or in goats' skins and were skilled in polishing hard stone, weaving, basketry, pot-making, and the carving of wood, bone, and ivory. In a word they had mastered all the arts that are usually termed neolithic. In addition they were acquainted with copper and could glaze stone beads. Some sort of trade relations were already sufficiently established to ensure them a plentiful supply of marine shells from the Red Sea for necklaces and of malachite, probably from Sinai, for eye-paint. A belief in a future life found expression in a regular and careful funerary ritual.

The archæological features of the Badarian civilization may be summarized as follows. Celts, i.e. axe or adze-heads, were made by grinding or even polishing pebbles to a sharp edge. Such implements, as Myres has recognized, were needed primarily by wood-workers. In later predynastic times none are found in Egypt, presumably because the suitable timbers had died out

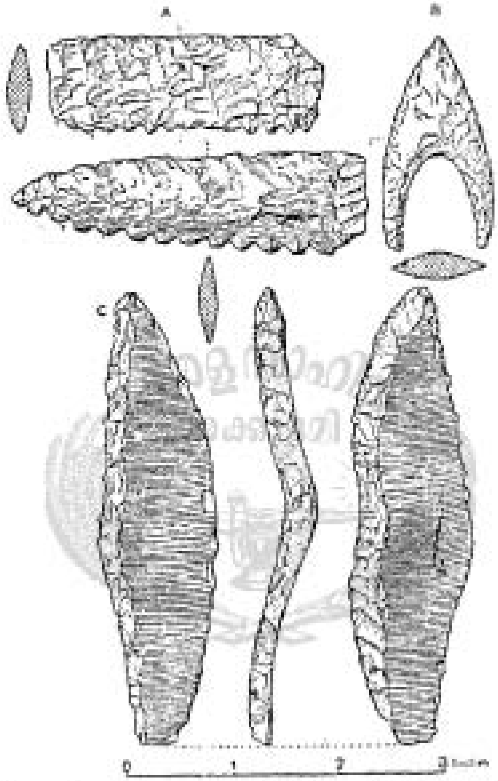


FIG. 12.—Sickle-teeth (A), arrow-head (B), and side-blow flake (C) after Caton Thomson in *Antiquity*, i. (The flake C has been detached by a blow struck near its centre as shown by the bulb visible in the middle view.)

with the growing desiccation. Flint was very skilfully worked by pressure-flaking into barbed, almost mitreform arrow-heads (Fig. 12B) and thin laurel-leaf points. A steep-ended scraper or push-plane, perhaps another carpenter's tool, was also common, as were knife-blades, with battered backs and flakes with denticulated blades serving perhaps as saws or sickle-teeth. But the most distinctive flint type is a curious curved flake struck off by a centrally directed blow at right angles to the greatest length (Fig. 12 C); it has been christened a side-blow flake.

Round bone-points sharpened at either end may have been used as an alternative to flint tips as arrow-heads. Besides the bow and arrows, a wooden boomerang or throwing stick (Fig. 13) was a favourite weapon, and there are some indications of the use of a mace with a stone-weighted head. Curious little three-quarter rings with a perforated projection, carved out of bone, may perhaps have served as fish-hooks (Fig. 13), though otherwise there are no indications of the use of the line till a much later date.

The pottery vessels, especially those designed for funerary use, illustrate a perfection of ceramic technique never excelled in the Nile valley. The finer ware is extremely thin and has been decorated by burnishing before firing, perhaps with a blunt-toothed comb, to produce an exquisite rippled effect that must be seen to be appreciated. The vases, which were coated with a ferruginous wash, were often fired inverted so that the lower part was exposed to the free air and hence reddened by oxidization while the rim and the inside were blackened

PLATE III

a BASKET FROM FAYUM

b POTTERY AND FLINT LAUREL LEAF FROM BADARI

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by the deoxidizing action of the glowing ashes and the gases of imperfect combustion, the ferric oxide in this case being reduced to ferrous. The chief shapes manufactured in this fabric were bowls, often steep-sided

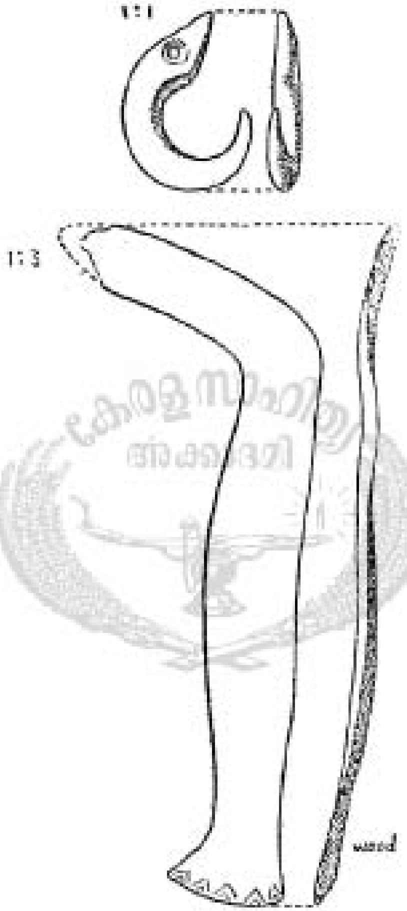

FIG. 13.—Bone "hook" and wooden boomerang, Badari, after Brunton.

and sometimes even carinated (Fig. 14). Secondly, there was a fine black ware decorated with incised and white-incrusted patterns of hatchings, triangles, or bar-chevrons arranged in horizontal zones or radiating from the base. The sole shape known in this black incised ware is a tulip-shaped beaker (Fig. 15). Here form and decoration allow of a glimpse into an era before pottery had been invented; for the potter faithfully follows traditions handed down by his predecessors, in this case the basket-maker. Similar shapes and designs survive to-day in basketry from North-East Africa. The shape of the beaker, however, may in the last resort have been evolved in leather, and one shape found in coarse ware, a globular flask with four handles on the belly (Plate III, 6), also looks very leathery.

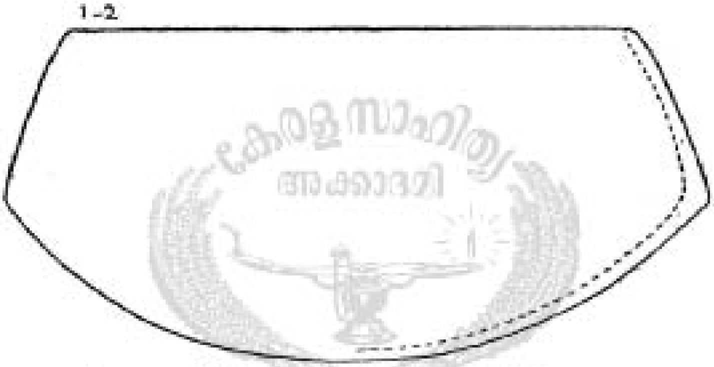

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FIG. 14.—Carinated bowl, Badari, after Brunton.

Finally, there is a great abundance of very coarse ware containing much straw and shell and badly burned. Yet even in this fabric quite elaborate shapes, often with flat bottoms, everted rims or necks, were manufactured. Notable is a shallow square-mouthed bowl and the flask already mentioned. Though pottery was very plentiful, the vases, especially the finer ones, have often been carefully mended in prehistoric times: wherever inclination to crack appeared, holes were bored on either side of the fracture and connected by grass rivets.

Besides pots, the Badarians used flasks, cylindrical vases, and spoons carved out of ivory. Even basalt was sometimes shaped and hollowed out by grinding and polishing to form a slightly conical vessel with overhanging bevelled rim.

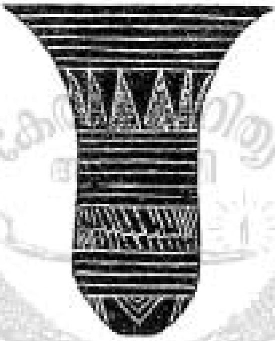


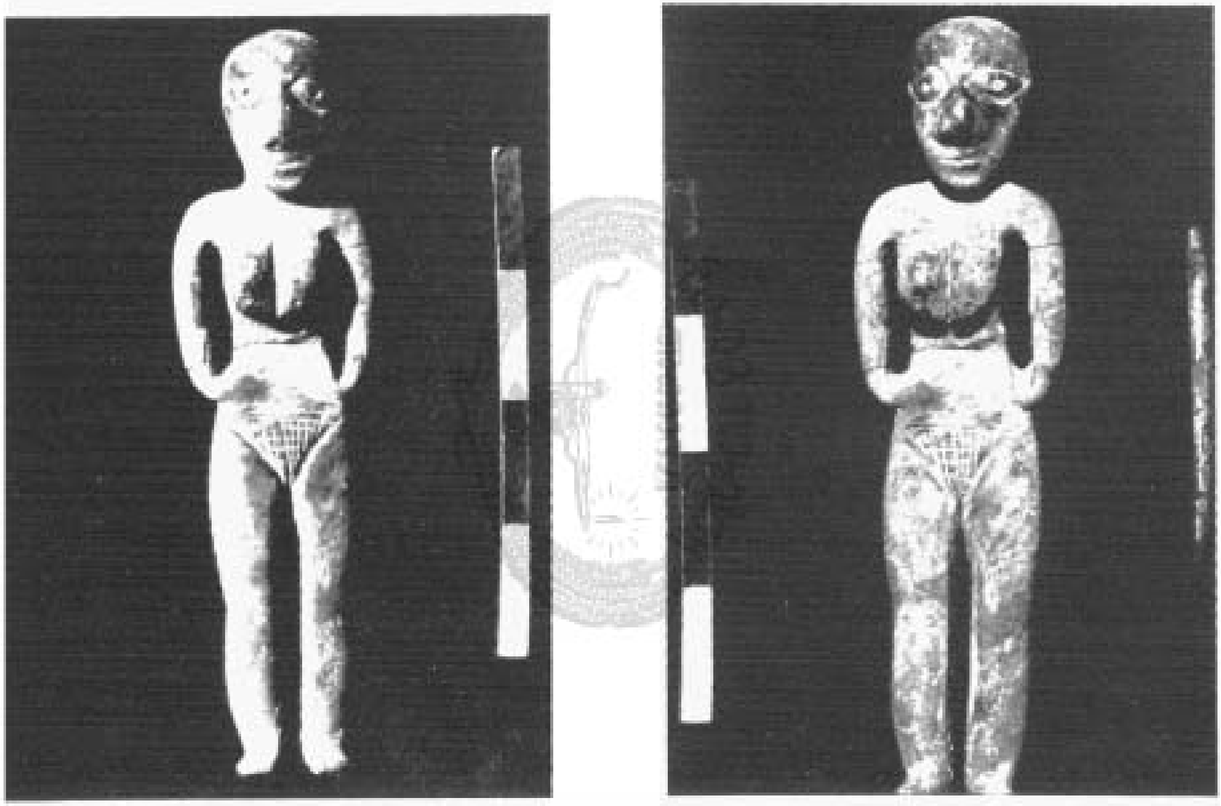
Fig. 15.—Badarian beaker, ⅓, after Petrie.

Rectangular palettes perforated at the corners or with slits in the ends were made out of slate for grinding the malachite used as an eye-paint; in a few, possibly older, graves almost square palettes of alabaster were used instead. Ivory combs, ornamented with carved birds, were worn in the hair, and pins of the same material, sometimes with grooved heads and an eyelet in the neck, perhaps fastened the clothing. Copper tubes, beads of glazed quartz, felspar, and other stones, discs cut out of ostrich eggs, and Red Sea shells were strung together as necklaces or girdles, while shell bracelets were worn on the arms, and plugs of soft stone were stuck in the ears and nose. Ostrich feathers were apparently used as fans.

Female figurines modelled in clay or carved out of ivory have been found in the graves. Such may be images of a mother goddess or substitutes for the wife the deceased left behind him in this life. The Badarians were interred in the contracted posture in shallow trench-graves, wrapped in mats or goat-skins, and sometimes lying on a rough bier covered with twigs.

About the same time as the Badarians settled in Upper Egypt, or perhaps even earlier, a cognate tribe took up its abode by the shores of a lake that then filled the Fayum depression to a height of 200 feet above the present lake surface.[11] They, too, were fishers and hunters, but cultivated emmer and barley and pastured herds of oxen, sheep or goats and swine upon the lake shores. They stored their grain in straw-lined silos and possessed most of the other neolithic arts attested for the Badarians; only the copper and glazed beads have not yet been found. But trade brought to the Fayum shells from the Mediterranean as well as from the Red Sea. Some Badarian forms are missing, for instance all the fine pottery, the " fish-hook rings ", worked ivories, and

PLATE IV



BADARIAN FIGURINE

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most ornaments. (It must be remembered that no graves were found.) On the other hand the most characteristic Badarian types such as polished celts, mitreform arrow-heads, the side-blow flake, and the boomerang are represented. Strange to Badari are flint celts with ground blades, tanged arrow-heads, disc-shaped mace-heads and a grooved type, and harpoons with barbs projecting from a rounded stem. The pottery is all extremely coarse, muddy and ill-baked, but includes mature forms : square-mouthed bowls and others with a rudimentary pedestal.

From the distribution of similar flint implements it may be confidently inferred that a kindred population was spread about the oases and watercourses as far south as the Kharga oasis and from Helwan to Siwa. In every case the location of the implements shows that their makers chose sites suitable at once for agriculture and fishing.

Plainly this is the source of the neolithic elements that we found arriving in Southern Tunisia and Algeria. Indeed, in some of these western stations definite Fayum types, for instance a few mitreform arrow-heads, appear as strange interlopers among pure Getulan microliths. But on the whole the farther west we go, the later seems to be the context of the radiations from the Badarian-Fayum industry. We are therefore disinclined to seek the origin of the latter in North (or at least North-West) Africa.

Sir Flinders Petrie[12] assumes that the Badarians and their kinsmen came from the direction of the Caucasus. He once went so far as to identify them with a branch of the family a parallel movement of which by a more northerly route brought the Solutreans to Europe. The supposed similarity of Badarian and Solutrean flint-work on which the latter part of the theory rested has, however, been shown to be quite superficial ; no Solutrean is known in Asia or the Caucasus, and the African 'Sbaïkian provides a nearer and equally plausible parentage for the Badarian laurel-leaves. Later echoes of Caucasian and Armenian place-names in the Book of the Dead have also been cited in support of the Caucasian theory, and much weight is justly laid on the story of Osiris, as the bringer of cereals, coming from Syria ; for the Badarians were undoubtedly the founders of Egyptian agriculture. And all the arguments based on the Asiatic distribution of cereals and domesticable animals are, of course, to be duly considered. Nevertheless not one specifically Badarian type has ever been reported from the Caucasus region or even North Syria and the delicate dolichocephalic Badarian skulls with their negroid affinities are the very last thing one would expect from the cradle of the Alpine Race.

Brunton,[13] Caton-Thompson,[11] and Junker [14] on the other hand have rightly insisted upon the Nubian analogies to the Badarian-Fayum complex. In that direction many Badarian elements survived in a pure form down to historic times in the so-called " C-group ".

The authors of the latter in their turn are no less clearly linked to the most Egyptian element in predynastic Egypt on the one hand and to the purest Hamites, the Beja of the Eastern Sudan, on the other.[15] The Badarians would on this view belong to a branch indeed of the great Capsian stock but a branch specialized in the Nile valley or farther to the east.

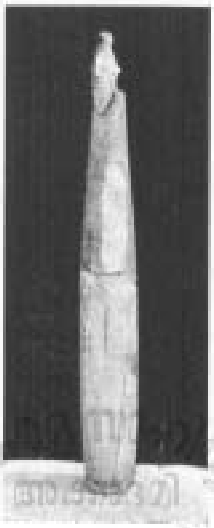
The negroid traits observed in the Badarian skeletons open up a vista of very curious speculation. There are indications that a racial type, possibly ancestral to the true negro but far less specialized, was spread as far north as Portugal and Upper Italy in late pleistocene and early recent time ; in addition to the negroid skeletons from a grotto at Grimaldi near Mentone, and rather later from shell-heaps at the mouth of the Tagus, the steatopygous figurines from palæolithic sites in France, Upper Italy, Austria, and Russia have been interpreted in this sense. Similar figures survived into " neolithic " times in Malta, Crete, and Thrace, just as steatopygy is regarded as a mark of beauty in Hottentot women. In the same parts of Europe the earliest pottery is a black incised ware whose shapes copy gourds. Something of the same sort has already met us at Badari and it survives in Nubia in the C-group graves ; many of the vases from the latter indeed agree extraordinarily with early Danubian pots.[16]

It is therefore just possible that all these anthropological and cultural phenomena are due to survivals of a very old and primitive Eurafrican tradition whose adherents would have spread northward and southward following the rain belts as their homeland became desiccated, and consequently would have become specialized along divergent lines.

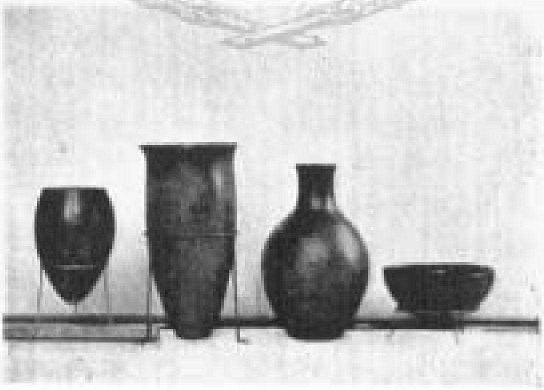
In any case the oldest Egyptian civilization was not, as far as we can judge, introduced from without ready made. Far more probably was it autochthonous in the Nile valley. But the Badarians' ancestors were not the Getulan hunters of the Libyan desert and Sahara, but some group whose cultural level was that of the Hadendoa mentioned above and who may well have been the ancestors of similar modern tribes. Such a condition of semi-nomadism must be assumed for the immediate ancestors of the Badarians prior to their fixation, otherwise the spread of that culture or its emanations can hardly be understood. For, as we have noted, it spread among the Getulan hunters to the Atlas and the Straits of Gibraltar.

The increasing dryness eventually caused a considerable infiltration of Getulan elements from the west, perhaps already affected by that westward cultural drift, into the Nile valley. From the fusion between these and the Badarians there arose in Upper Egypt, at a time when the rainfall was no longer sufficient for the growth of large trees, the First Predynastic culture.[17] It is known to us from a great number of settlements and a few villages extending from Badari on the north well into Lower Nubia.

The Early Predynastic Egyptians[18] had lost the negroid traits noticeable in their Badarian forerunners,



a. TUSK FIGURINE



b. BLACK-TOPPED VASES

perhaps owing to the infusion of Getulan or Libyan blood. They are about 5¼ feet in height, slender and lightly built with a long small skull, small features and straight hair. A type identical in almost every feature may be seen among the Beja of the Eastern Sudan to-day.

Figurines of clay or ivory supplement the picture given by the well-preserved corpses. The early ivories depict men clean-shaven or wearing long pointed beards with a prominent aquiline nose and a high domed forehead (Plates V*a* and VII*a*). The women on the other hand often shaved their heads and wore wigs that are separately modelled. And besides a slender type, corresponding to the skeletal remains and the male statuettes, there is another group characterized by marked steatopygy (Plate VII*b*). Petrie considers these represent survivors of a conquered race that would be identical with that hypothetical substratum of Eurafrican protonegroids just mentioned.

Like the Badarians the Early Predynastic Egyptians lived as settled communities in regular villages on the products of their crops and flocks, of the chase and of fishing. From the representation on vases or amulets of undesirable animals such as crocodiles and scorpions [19] the existence of a totemic cult has been inferred, and some at least of the symbols that now meet us recur in the succeeding period as clan-ensigns and, still later, as the emblems of deities. Hence one is tempted to conclude that the First Predynastic communities were

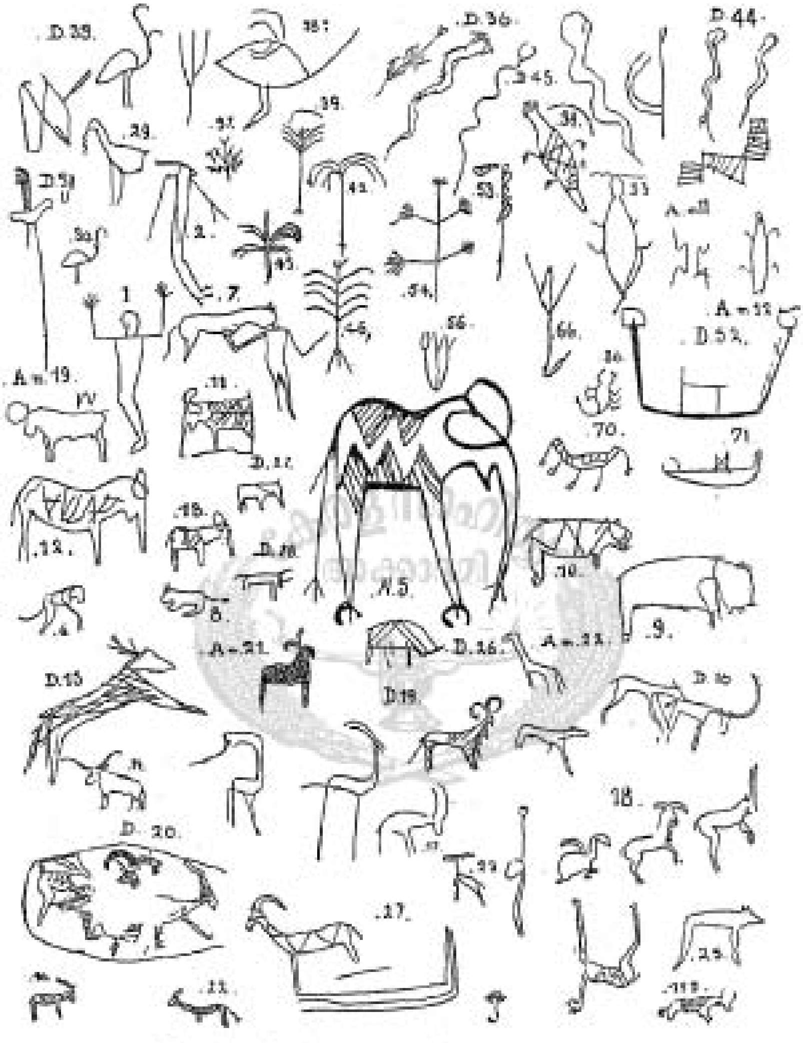

D.35.
D.36.
D.44.
D.45.
D.53.
A. m. 19.
D.17.
D.18.
N.5.
A. m. 31.
D.26.
A. m. 33.
D.19.
D.15.
D.16.
D. 20.
18.
70.
71.
54.
56.
66.
17.

Fig. 16.—Designs scratched on predynastic pots.

totemic clans living in autonomous villages, like the Dinka of the Upper Nile mentioned in the first chapter. Of kingship or chieftainship there is no sign ; in the early cemeteries no grave is sufficiently distinguished in richness from the rest to be assigned to any personage deserving such a title. Yet slaves already existed to judge by figurines of water-bearers, generally female, and of captives with their hands bound behind them. The existence of personal property is implied in the use of "proprietary marks" scratched on the vases ; all the vases in one grave are normally distinguished by the same sign.

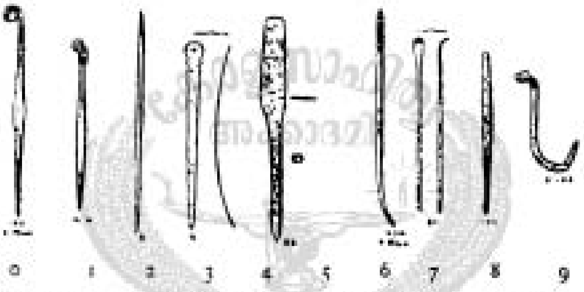
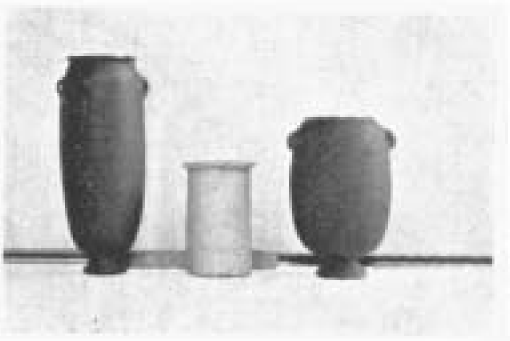


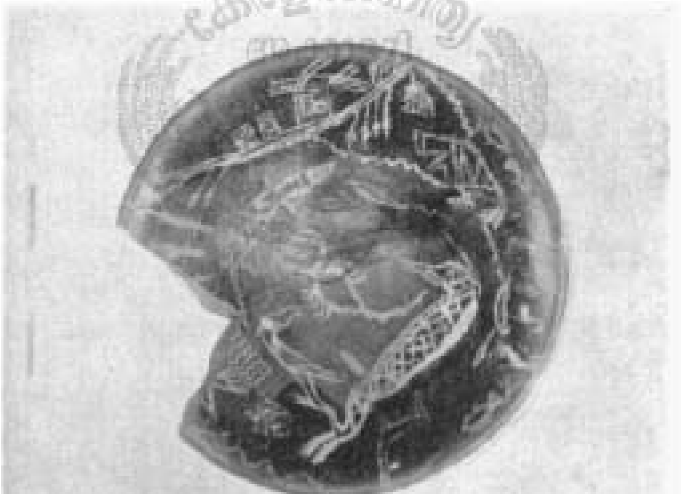
FIG. 17.—Small copper implements from Naqada : 1, Pin, Early Predynastic ; 3, Needle, Middle Predynastic ; 9, Fish-hook, Late Predynastic after Petrie, $\frac{1}{3}$.

All the industries carried on by the Badarians still flourished save that polished stone axes were no longer manufactured presumably because timber requiring the use of such tools had become extinct. In compensation copper was now used even for small tools such as harpoons, though except in the pins with looped head (Fig. 17, 0) it was treated like stone or ivory without any appreciation of its true properties as maleable and fusible.[20] Foreign relations were more extensive and regular than before. Besides copper and malachite from Sinai and gold from Nubia, obsidian and lapis lazuli from Western Asia, coniferous woods from Syria, and emery perhaps from Naxos[21] found their way to Upper Egypt. Perhaps to facilitate such intercourse the Egyptians had evolved a very serviceable boat made out of bundles of papyrus lashed together (Plate VI*b*). It gave support for two square cabins amidships and was propelled by seven or eight pairs of oars, the steersman standing sheltered by a bough at the stern. Petrie believes that such boats must have been equipped with sails as rowing would be ineffectual against the Nile current. If this reasoning be correct, then the Egyptians would already have harnessed a non-human motive power. But boats of this type are never depicted with sails spread while the later " foreign " barques are thus represented. With the same " trade " might be connected the elaboration and widespread diffusion of those alphabetiform signs that appear scratched on our vases, signs whose origin is ultimately to be sought in palæolithic marks.

The progress in religious belief is shown by the elaboration of the funerary ritual. The marvellous preservation of the bodies in the hot sand of the desert would suggest to the Nile dwellers a peculiarly vivid idea of the continuation of life after death. The barbarous practice, still recently observed by some



a. BASALT AND ALABASTER VASES



b. INTERIOR OF WHITE CROSS-LINED BOWL

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Nilotic tribes farther south, of slaying wives and menials and burying them with their lord to attend him in the future life had apparently been abandoned because sympathetic magic offered a more economical alternative. The statuettes of women and of servants bearing water-pots on their heads, are probably substitutes for living wives and attendants as were demonstrably the *ushabti* figures of historic times.

Man's dumb servant, the dog, was, however, often forced to accompany his master in death and buried with him in the tomb. Other possessions such as cattle were replaced by clay models (Plate X*a*).

In dynastic Egypt paintings on the tomb walls depict the bringing of offerings to the dead, the labours of his serfs and his own pleasures at the banquet and the chase. Such scenes were not executed merely to delight the eye of the soul but, as the accompanying texts show, to secure to the defunct by their inherent magic virtue the actual enjoyment of such services and delights. In the prehistoric grave there was no room for paintings on the walls of the simple pit, but funerary vases and slate palettes were decorated with comparable scenes that are linked by a continuous chain of later monuments to the earliest painted tombs as will appear in the sequel.[22]

To enable us to disentangle the several constituents of this culture and justify our initial assertion, let us now examine some of its archæological traits more closely.

No stone axes or adzes are known from the First

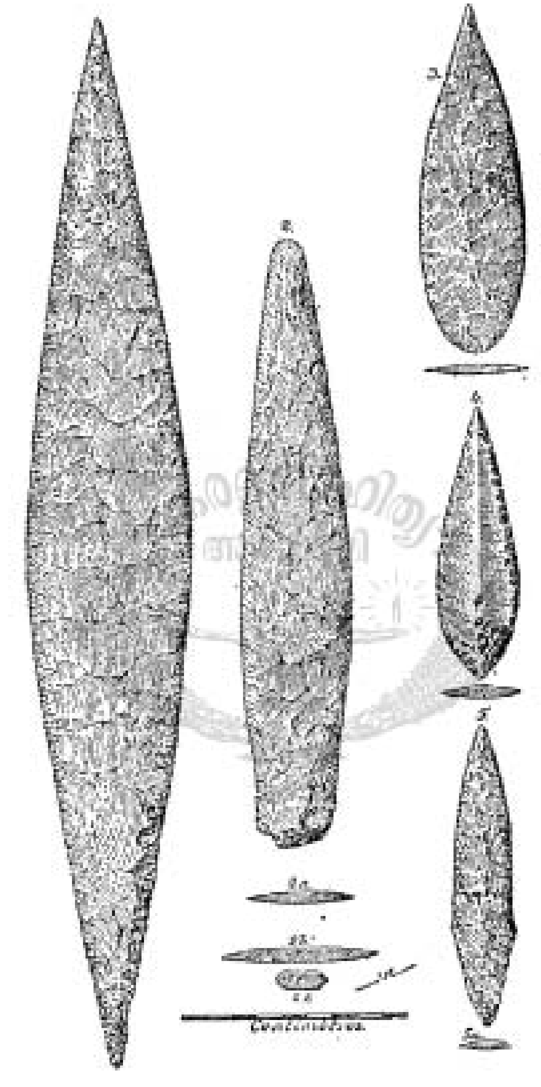


Fig. 18.—Early Predynastic flint work: 1 and 2, rhomboid daggers; 3 and 4, arrow-heads (5 is perhaps protodynastic), after de Morgan.

Predynastic period, but the flint tools include sickle-teeth, disc- and end-scrapers, the latter probably used as razors, and a beautiful comma-shaped knife (Fig. 26, 85) that is really just a Capsian point worked all over one face by pressure-flaking.[23] The arrow was tipped with concave-based or tanged points as before, but, at least in Nubia, transverse arrow-heads of lunate or trapezoidal form now occur.[24] Notable types are the fish-tailed

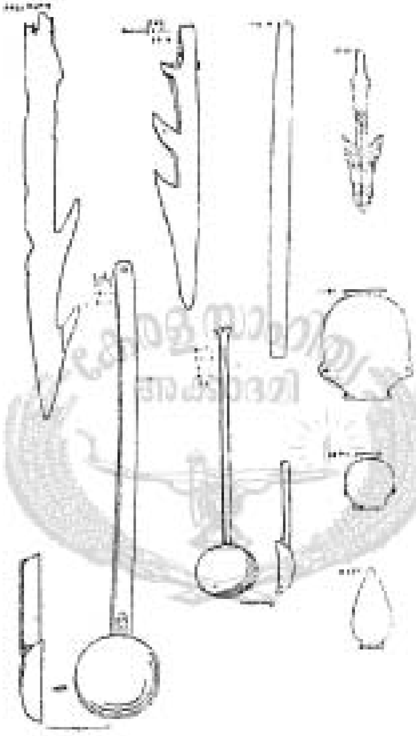
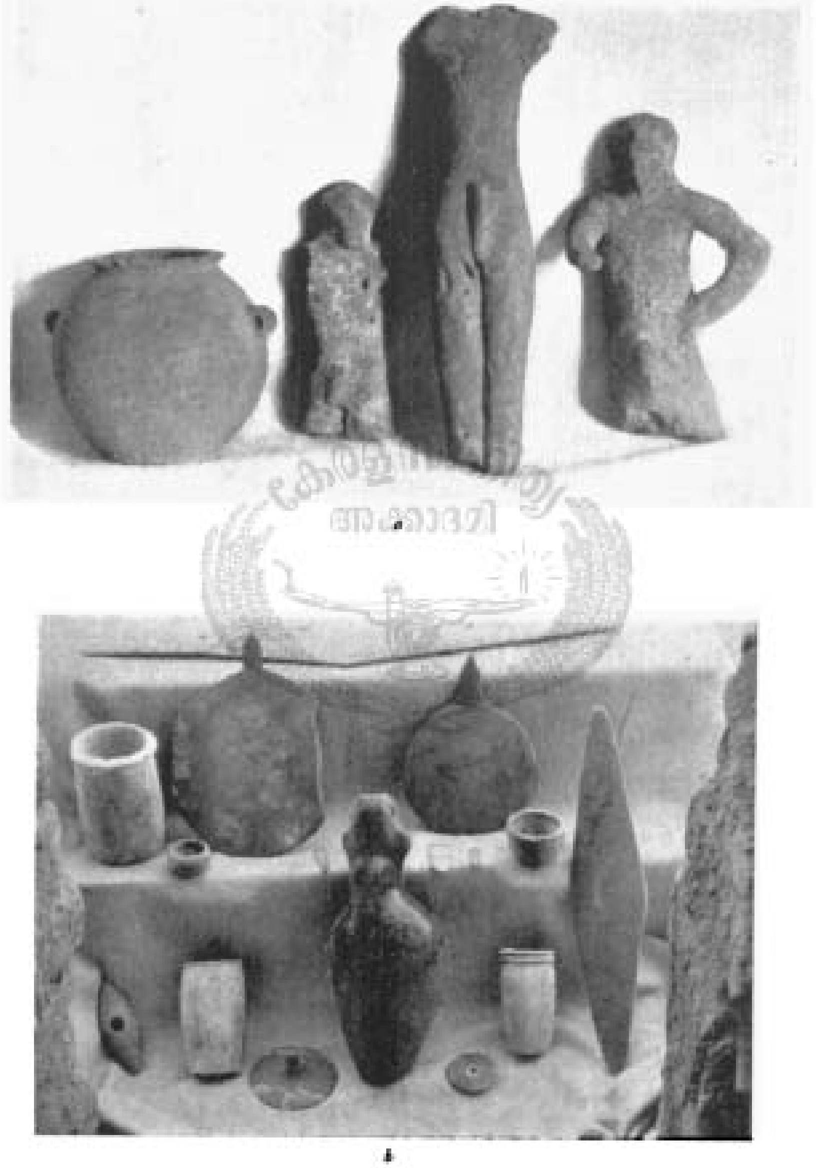


FIG. 19.—Ivory vases and harpoons of First and spoons of Second Predynastic culture, ⅛, after Petrie.

blade (Plate VIII*a*), hafted by its point into a wood or ivory hilt and allegedly used for hamstringing game, and the great rhomboid "lance" or dagger blade (Fig. 18). The mace now used was weighted with a sharp-edged stone disc or more rarely with a pointed head of stone (Plate VII*b*, bottom). Fish were speared with harpoons, rarely of copper, more often of bone and always flatter than those from the Fayum (Fig. 19).

Several classes of pottery, all inferior to the best Badarian, were now in use. The commonest fabric, termed Black-topped Ware, resembles the finer Badarian in the manner of its decoration by partial oxidization of the ferruginous wash but lacks the tasteful ripple burnish and the fineness of the latter fabric (Pl. V*b*). Among the shapes the flasks, carinated bowls, goblets on a low pedestal and twin vases are noticeable, but the lank tumblers are the most distinctive. Secondly, a polished red ware, fired wholly in an oxidizing atmosphere, was current as was a black ware produced by reduction and imitating basalt. Yet more characteristic is White Cross-lined pottery that was only manufactured between S.D. 31 and 35. It is essentially red-polished ware ornamented with patterns in dull white paint. The designs belong to two series. First there are vases adorned with simple rectilinear motives evidently copied, like the vases they adorn, from basketry originals (Fig 20). Others are ornamented with the representations of men and animals, already referred to as of magic purport and evidently intended to be lifelike, but the result was

PLATE VII



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a–b. TOMB GROUPS FROM DIOSPOLIS PARVA

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not always very successful (Pl. VI*b*). These painted scenes have ruder precursors scratched on Red-polished or

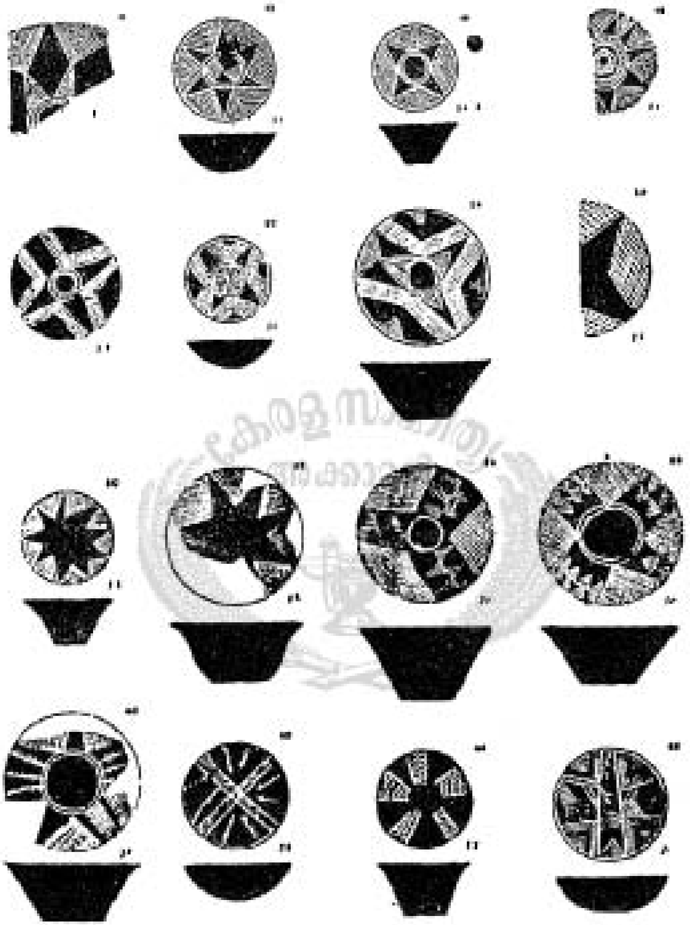


Fig. 20.—White Cross-lined bowls showing basketry patterns after Capart, $\frac{1}{12}$.

Black-topped vases. In some cases plastically modelled animals—generally elephants or hippopotami—

walk round the vase's rim. These figures and the painted giraffes, Barbary sheep, and scorpions give us a lively picture of the prehistoric fauna of the Nile valley and its immediate borders. A pendant to the White Cross-lined is the rare Black Incised ware, a fabric principally found in Nubia. It corresponds in technique to the Badarian beakers and like them is inspired by basketry models with the exception of some Nubian vases that imitate a gourd in a straw sling.

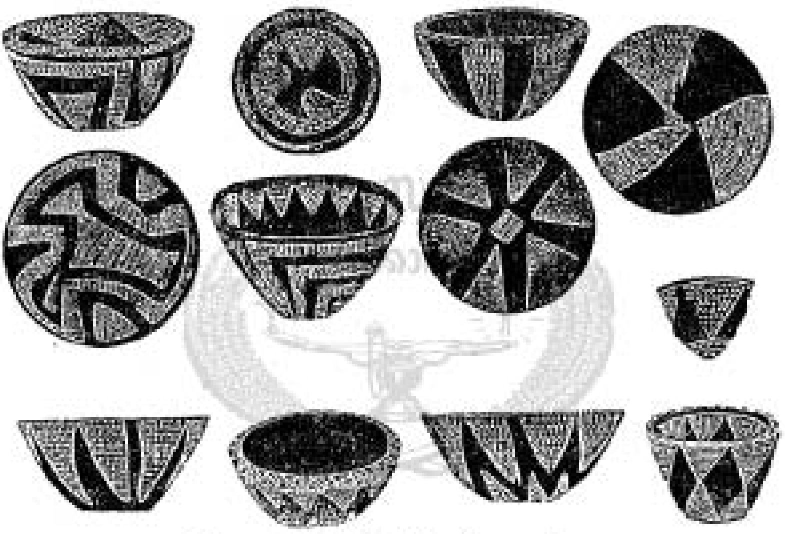
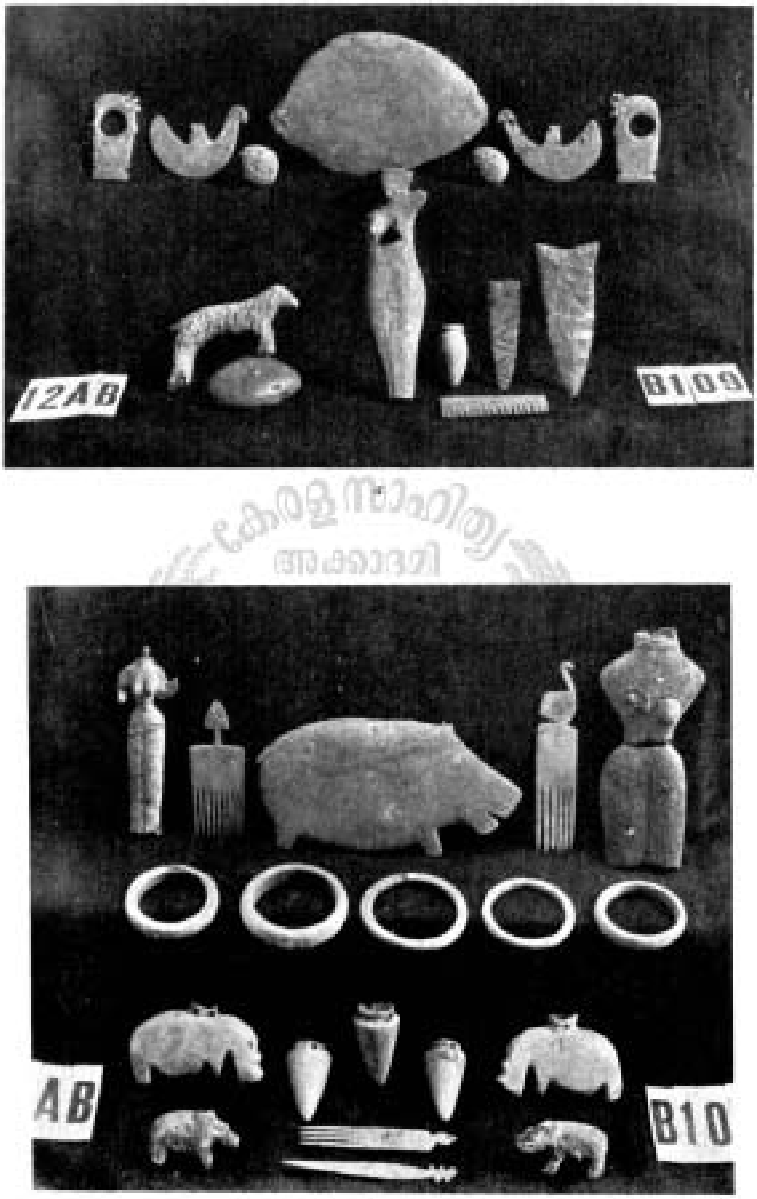


FIG. 21.—Black Incised ware, ⅙.

Stone was also used for vessels, though not very often. The only Early Predynastic types are tall ovoid beakers on a pedestal with two lug handles just under the rim and cylindrical jars with slightly convex sides and bevelled rims (Pl. VI*a*). The material used for the Early



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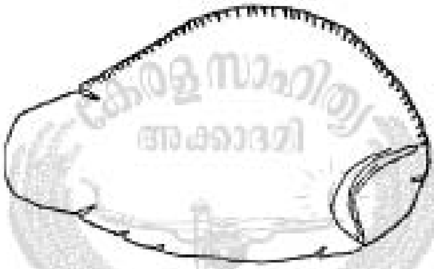
a—b. TOMB GROUPS FROM DIOSPOLIS PARVA

[*face p.* 73

Predynastic stone vessels was exclusively fine-grained rocks, principally basalt and alabaster. Other vases were made out of ostrich shell or ivory.

Turning to toilet articles we find that the eyes were still painted with malachite. It was ground on slate palettes that are now either rhomboidal (Pl. VII*b*, bottom right) or carved to represent animals (Fig. 22). The material was carried in little bags decorated with tags (Plate VIII) that may be either real tusks, or flat ivory slips of a similar shape or well-carved stone models.



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അക്കാദമി

Fig. 22.—Slate palette in form of a fish, ⅓, Naqada, S.D. ?

The body was tattooed with various patterns. Long-toothed ivory combs like the Badarian, were stuck in the hair or wig, and ivory pins may have been similarly worn. Necklaces of ostrich-shell discs, cornelian, steatite, lapis or green glazed beads and marine shells or coral were hung round the neck. To them were attached slate pendants representing animals, birds, or fishes that may have been totemic emblems or magic amulets. The arms were decked with bracelets of shell, ivory, or tortoise-shell. Men, to judge by the figurines, went stark-naked save for the "Libyan sheath" or penistasche (Pl. VII*a*, centre) and plumes stuck in their hair, but were shod with sandals of grass. Women wore a linen apron, and sometimes at least wigs.

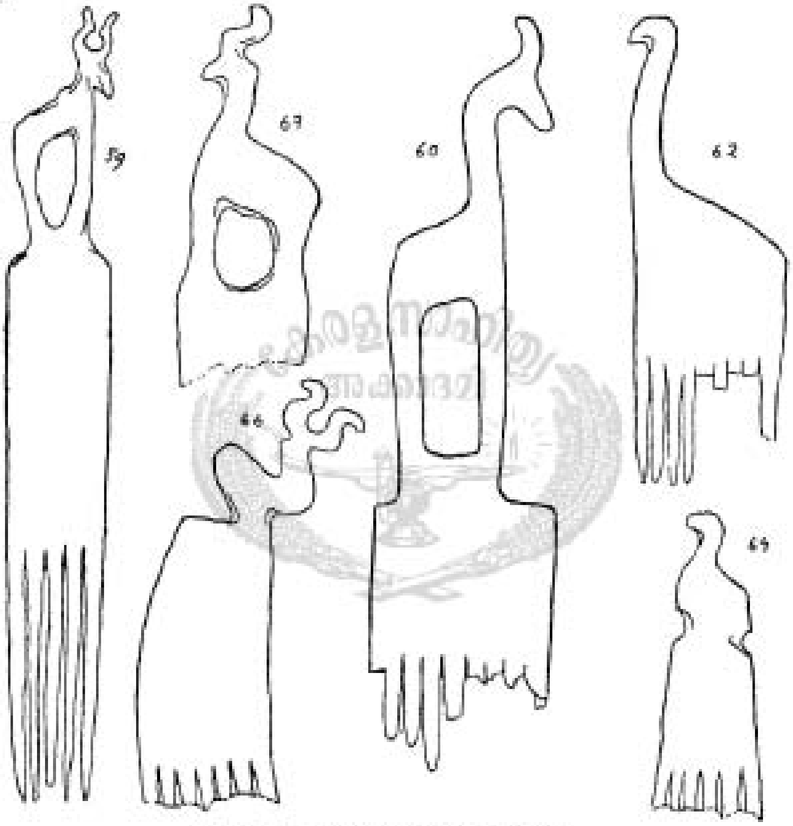

FIG. 23.—Ivory combs, about $\frac{1}{2}$.

The graves were shallow oval pits in which the corpse was interred doubled up. Sometimes more than one body lies in a single grave, and in other cases the bones are found in disorder as if interment had taken place only after the skin had decayed from them.

The deceased was liberally provided with weapons, ornaments, and food for the future life as well as the magical apparatus already described. The figurines belong to several classes. In the first place we have the ivory tusks showing only the head (Pl. V*a*). Next comes a series of complete statuettes also in ivory. The earlier examples are fine and realistically carved ; towards the end of the First Predynastic age about S.D. 38 they give way to rough "block figures" showing only the head and bust that survive into the Second period (Fig. 24). The clay or mud figures are generally much rougher. Erect and squatting types occur and the arms may be upraised or curved round below the breasts (Plates VII and VIII).

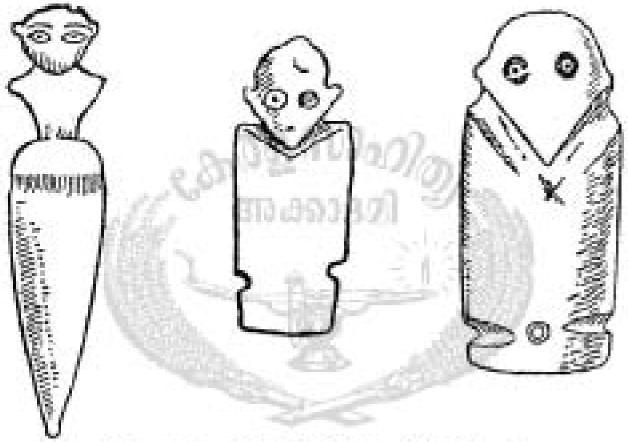

FIG. 24.—Block figures, Naqada, ½.

In the complex defined by the foregoing traits the sedentary life, the grains and domestic animals which made that possible, the fine flintwork, the black-topped pottery, the slate palettes, ivory combs and pins, shell bracelets and glazed beads, are all just improvements on the discoveries of the Badarians or are derived more or less directly from them. On the other hand, the scenes painted on White Cross-lined pots or incised on Black-topped vases or slate palettes betray in style and mentality the closest kinship to the Capsian paintings and engravings described in the last chapter. There are the same liveliness and impressionism in both groups, but the Egyptian artist, experimenting in a new medium, fell short of the best achievements of his North African or Spanish confrères. E. S. Thomas[26] has recently instituted a detailed comparison between the more conventionalized elements of later Spanish cave art and the signs on White Cross-lined and Black-topped vases. And he finds so many coincidences that it is clear that Early Predynastic Egyptian art was not only inspired by the same ideals but also developed along the same lines as that of East Spain.

Then there are many agreements in costume between the east and west. The feathered head-dress of the Saharan rocks reappears on White Cross-lined vases, the penis-sheath on clay and ivory figurines; the anklets worn at Cogul are also indicated on an Early Predynastic clay figurine. Beads of ostrich-egg discs have prototypes in the Capsian middens of Algeria.

The predynastic dog looks like that depicted at Alpera.[36] The distinctively Capsian transverse arrow-head appears beside the Badarian barbed form in the Early Predynastic of Nubia.

The appearance in the First Predynastic civilization of Upper Egypt of so many forms that have a long history in North Africa, superimposed upon a purely Nilotic Badarian substratum, accordingly confirms the view advanced at the beginning of the section that the Early Predynastic culture contains new Libyan elements foreign to the Badarian. Getulan nomads from what was becoming the desert had invaded the fertile valley and mingled with the Badarian farmers. That influx would help to explain the elimination of negroid elements in the Nile valley and the clash of contrasted cultures and divergent traditions would promote the great progress that marks the rise of the Early Predynastic civilization.

CHAPTER IV

THE SECOND PREDYNASTIC CULTURE

IN the Delta the oldest remains of human settlement are hopelessly buried beneath many layers of Nile mud. But a culture similar to that of the Fayum must, from the distribution of sites east of the Nile, have covered the whole belt, and cognate remains have actually come to light on the western edge of the Delta and east of the Nile in the vicinity of Helwan. In the Fayum itself culture gradually went down hill, the decline being marked by diminution in the size of the flints and the reshaping by chipping of once polished implements. But in Lower Egypt there grew up out of a like substratum a culture parallel to the First Predynastic of Upper Egypt but with a more Mediterranean tinge. It is known exclusively from stray finds on the western bank of the Nile near Gizeh and from a poor settlement and cemetery excavated by Bovier Lapierre near Ma'adi on the opposite bank.[1] The sole vestiges of this early civilization are a few ovoid vases, coarse and only roughly polished, in a black-faced ware which, despite their clumsy technique, possess well-shaped everted rims, and one basalt vase of the distinctive shape peculiar to the Early Predynastic graves of the South, found in a tomb near Ma'adi.

SECOND PREDYNASTIC CULTURE

The last-named Upper Egyptian culture has never been found north of Badari, but indirect evidence exists of the presence of an allied population in the Delta. The red crown that was to adorn the King of Lower Egypt and symbolized the goddess Neith of Saïs in the Delta, before S.D. 39 adorned a Black-topped pot from Naqada in Upper Egypt.[2] Refugees from the western Delta flying from Menes at a later date brought to Crete the use of ivory block figures, degenerate children of Early Predynastic types, and of the Libyan sheath.[3] But it is still uncertain whether these kinsmen of the First Predynastic folk of the South were the authors of the black-ware culture of Lower Egypt or whether they represent a subsequent band of Libyanized intruders; for their affinities are partly with the Libyan elements in the First Culture.

In any case Lower Egypt eventually became the seat of a higher civilization with definitely Asiatic, as opposed to African, affinities, and this civilization ultimately dominated Upper Egypt, too. It is in fact only known directly from the latter region, though its presence may be inferred with confidence in the North. And in Upper Egypt there is no sharp break between the First civilization and the Second; the latter gradually trickled in, mixing with, but dominating, the older elements. New types of vases, of weapons and ornaments intrude in ever greater numbers till they predominate or even oust the old entirely. At the same time the old culture becomes atrophied; though Black-topped ware continues to be manufactured no new forms are developed after S.D. 40.

The Second Predynastic civilization,[4] as known in Upper Egypt, differs from the first on the one hand in its greater richness and its technical superiority, on the other by the abrupt changes of fashion in weapons, pottery, and dress that denote a breach with the past. The first group of features need mean nothing more than independent progress in arts and crafts, growth of wealth, and a consolidation of religious and social ideas. The changes in armament and dress on the contrary, associated as they are with no less thoroughgoing modifications of religious ceremonial and burial rites, can only be explained in ethnic or political terms. They do not grow naturally out of the older traditions but mark a definite break with established custom. Such denote, therefore, the adoption of ideas belonging to a different cycle and presumably effected by the infiltration of foreigners. That impression is confirmed when we observe that the Second culture never penetrated into Nubia.

The break with the past is indicated in the following traits. A pear-shaped mace replaces (S.D. 42) the disc type that only survives later as a cult object ; the fish-tailed blades (with U base) give place (S.D. 38) to swallow-tailed shapes with a V base (Fig. 25) ; scimitar-shaped knives (Fig. 26, 84) at S.D. 45 oust the comma type ; flint daggers come in and arrow-heads with concave bases go out ; but the chisel-bladed arrow occurs occasionally even in Middle Egypt; figurines are no longer modelled in clay after S.D. 43 nor carved

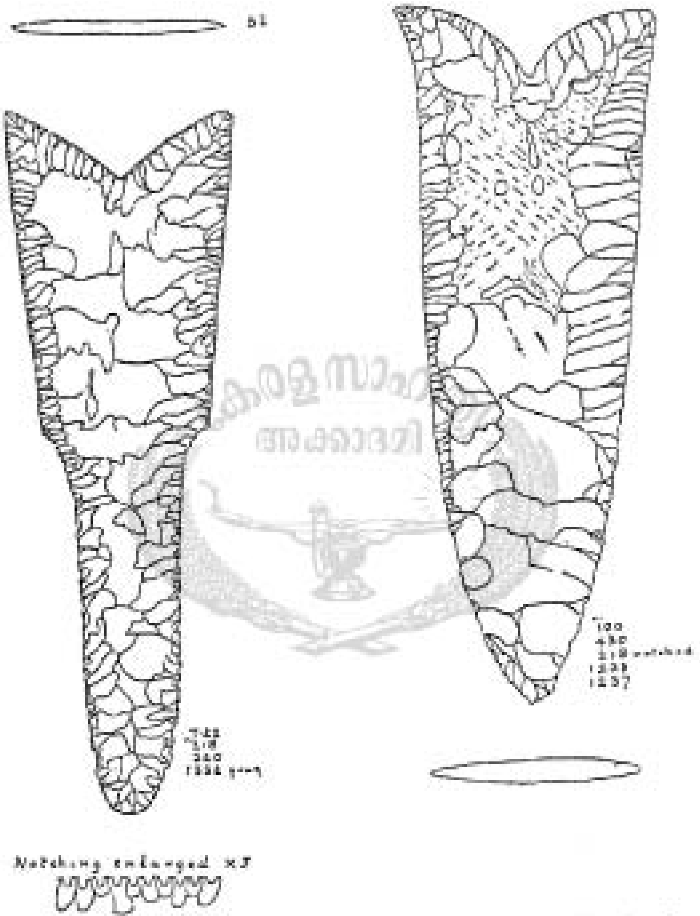

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Fig. 25.—Flint blades with V base, Naqada, after Petrie, ½.

in ivory after S.D. 45; but clay and stone vases are made in the form of animals and the ivory-carver turns his attention to the manufacture of amulets and spoons strange to the first culture.

Household vessels, always the most sensitive indicator of ethnic change, are radically altered. Though Black-topped and Red-polished ware continue to be manufactured they are no longer the vehicle for new shapes,

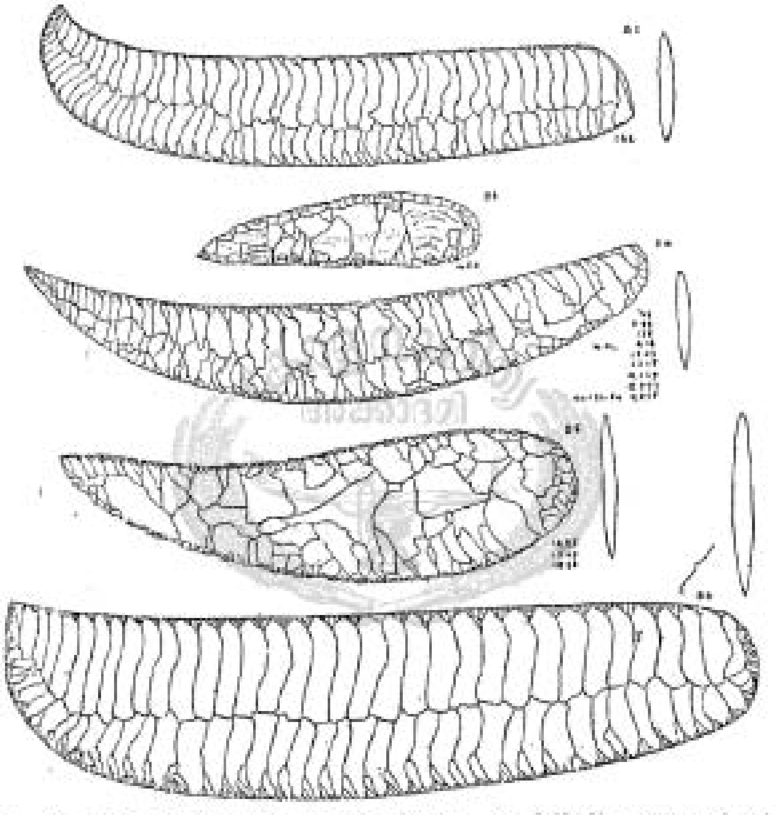
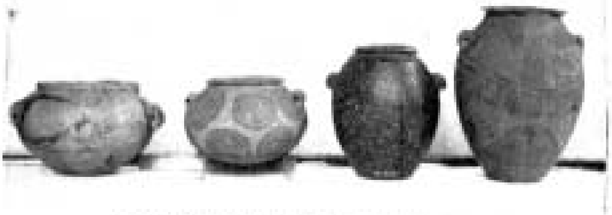
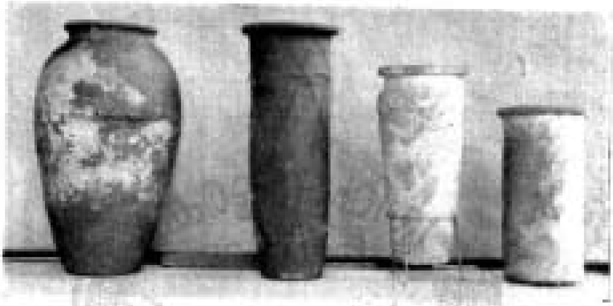


Fig. 26.—Flint knives: 83 and 85, Early; 84, Middle; 82 and 86, later Middle Predynastic. ½.

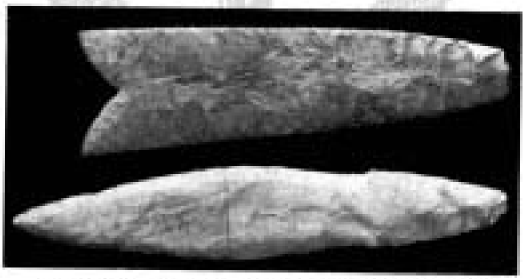
PLATE IX



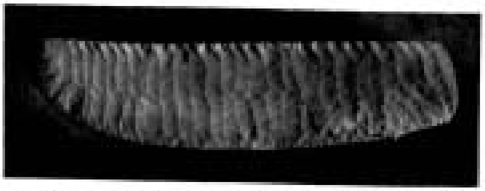
a. STONE VASES AND POTTERY COPIES



b. WAVY-HANDLED JARS



c. V-BASED BLADE AND DAGGER OF FLINT



d. FLINT KNIFE SHOWING SERIAL FLAKING

while White Cross-lined has gone out altogether. Its place as the typical ware is taken by vases of light-coloured buff clay painted with patterns in brownish red, the so-called Decorated pots. Technically the production of a light-coloured fabric like this implies very different traditions to those embodied in red and black wares. The ancestry of the decorated pots, as disclosed by their shapes, especially the "undercut" rims and long tubular handles, are to be sought in stone instead of in leather and basketry. The patterns on the earlier vases imitate either the mottling of coarse-grained stones or the protective straw jackets in which

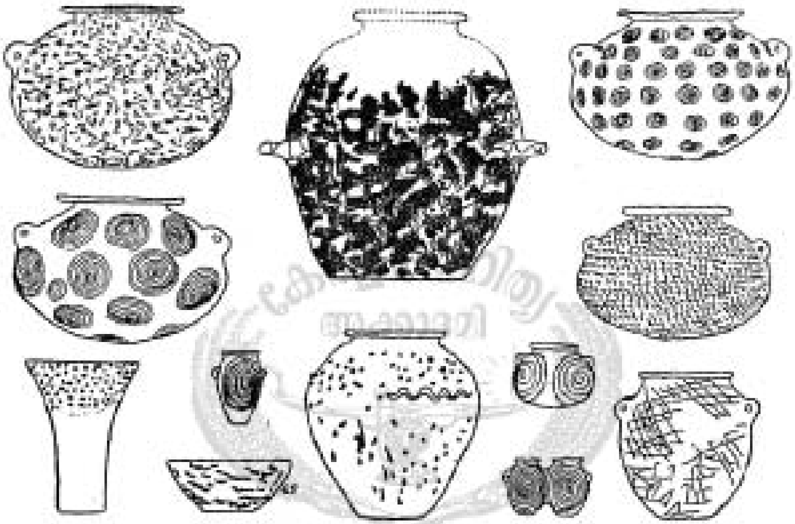


Fig. 27.—Decorated vases (and two wavy-handled jars in centre) imitating stone vessels in shape and ornament, $\frac{1}{2}$.

such vessels, like Chianti flasks or ginger-jars to-day, were carried. And actually many graves contain stone vases agreeing precisely in form with their clay copies and distinguished from those of the previous period both by their shapes and by the preference for variegated and coarse-grained rocks (Plate IX*a*).

In addition we have the famous Wavy-handled jars whose progressive degeneration provided Petrie with the first basis for his sequence dating (Plate IX*b*), and then a multitude of " Rough " pots, generally reddish in colour and often provided with a pointed base. There are further a few spouted jars, probably imported, and vessels of clay or stone in the shape of animals. Such " theriomorphs " have been regarded as signs of foreign influence but the animals represented include definitely

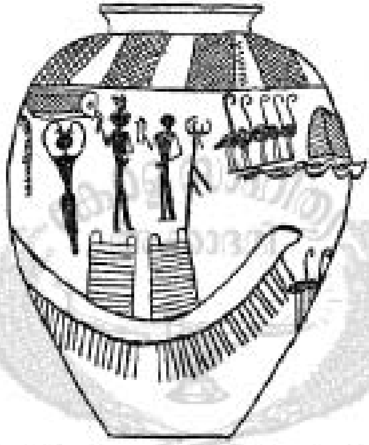


FIG. 28.—Decorated pot figuring boat.

Nilotic species such as hippopotami, and some theriomorphs are made of just those variegated stones and with just those peculiarities that are exclusively

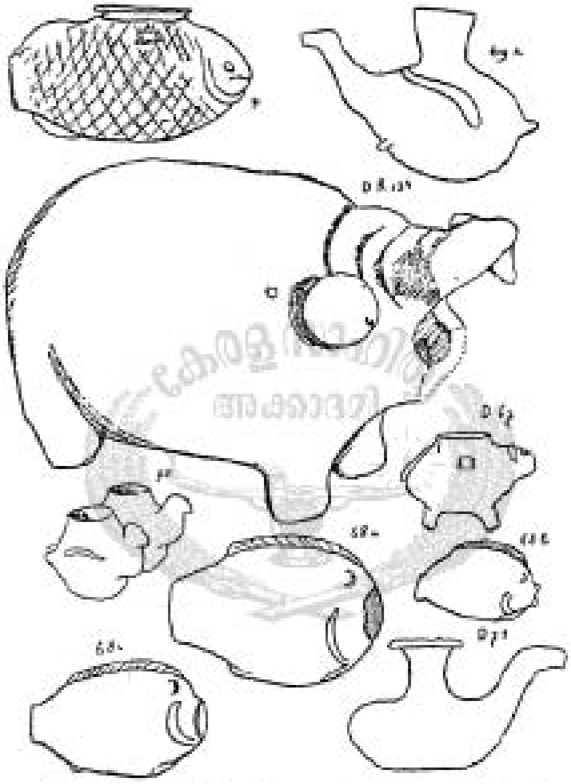


FIG. 29.—Theriomorphic and spouted vases, $\frac{1}{5}$, after Capart.

haracteristic of the Second Predynastic stone-ware Fig. 29).

After S.D. 45 subjects taken from nature, plants, nimals, and ships are also depicted upon the Decorated vases and the treatment of the themes is now abstract and stylized as contrasted with the naturalism and youth of the older White Cross-lined painting.

No less radical alterations are observable in dress and toilet articles. The long-toothed comb disappears entirely after S.D. 42; its place is taken by short-toothed scratching combs or combinations of such with hair-pins. The rhombic slate palette goes out of fashion at S.D. 40 and with it the various tags and tusks that had decorated the malachite bags. Yet the eyes were still painted with malachite, and theriomorphic palettes were still used for grinding it on.

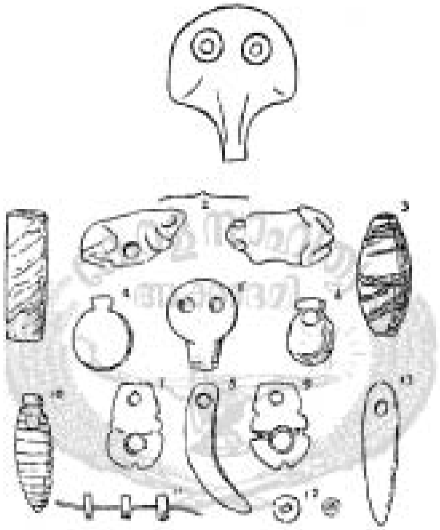


FIG. 30.—Amulets: 1, Bull's head: 2, toad; 8, claw, etc.; ½, after Petrie, S.D. 65.

In the intimate domain of spiritual life the abandonment of figurines and the adoption of amulets in the shape of bulls' heads (S.D. 46) and flies (S.D. 48), falcons, and other animals denote a new orientation (Figs. 30–1). Burial rites are revolutionized. No regular orientation is now observed ; multiple interments have ceased ; dogs are no longer buried with their masters, and weapons are rarer in the tombs. The ornaments, vases, and implements have often been deliberately broken—" killed " perhaps—at the time of deposition.

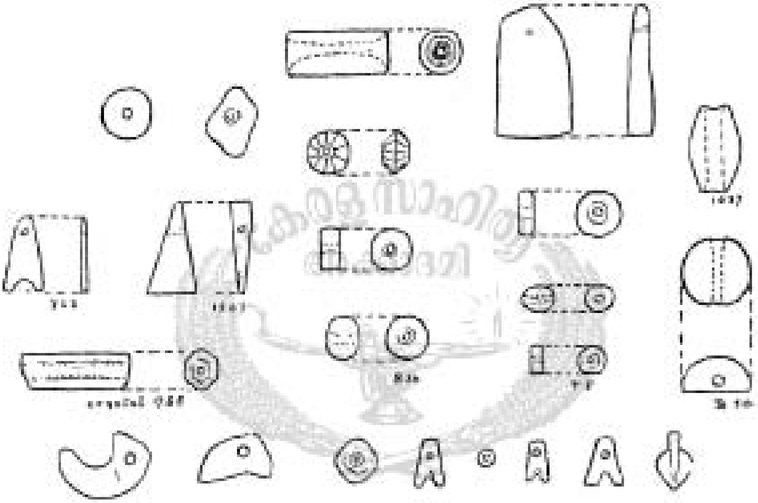
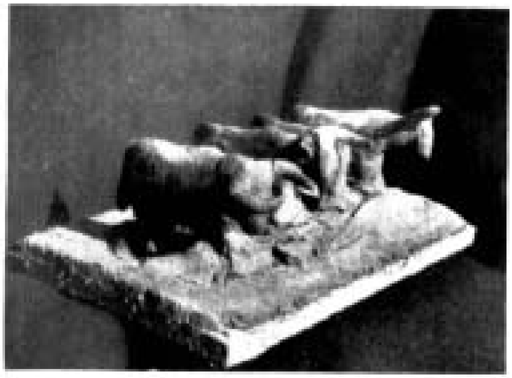


FIG. 31.—Predynastic stone beads ; in bottom row claw and fly amulets.

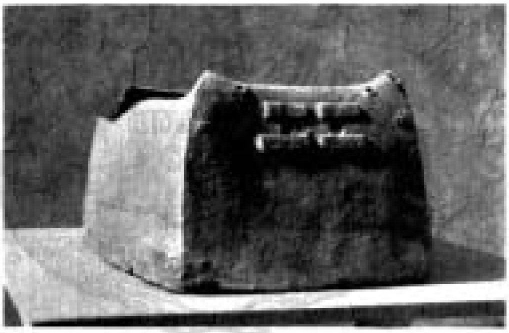
Yet the change from the First to the Second culture is much more than the mere substitution of one barbarism for another. The high cultural level attained during the previous epoch was preserved, and fresh storeys were erected on that foundation. The result was a complex enriched by fresh ideas and wider relations.

Farming remains the basis of life, and the relative importance of hunting has declined as the disappearance of hunting weapons from the tombs shows. But now some villages were well on their way to becoming towns, the nuclei of the cities that in historic times constituted the capitals of the regional divisions termed nomes, and then designated by ensigns representing animals or plants. Most authorities agree that the historical nome banners are totemic standards representing the patron or fetish of the region. Now the ships depicted on the Decorated vases bear on a mast in front of the fore-cabin an ensign (Fig. 28). Not only do such ensigns correspond in nearly every case to later nome-standards, but when two or more ships are depicted upon the same vase, their several ensigns are always those appropriate to contiguous nomes.[5] Hence it is clear that the totemic clans, vaguely discerned in the First period, are now firmly established in their historic seats ; only a few are to vanish in the unification that is yet to come. Additional proof of the totemic organization is perhaps afforded by the amulets already mentioned. And Bénédite[6] believed that rows of animals, represented on certain ivory knife-handles, are pictorial records of conflicts between such totemic clans ; the animals depicted are always the same and are grouped in a regular order with the elephant, historically the arms of the first nome of Upper Egypt, Elephantine, at their head.

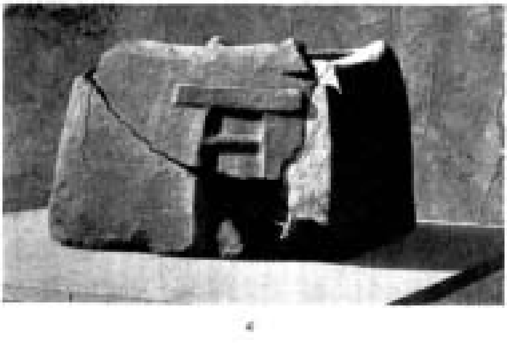
Some idea of the houses in which the clansmen lived



a. EARLY PREDYNASTIC MODEL OF CATTLE



b



c

b—c. MODEL OF MIDDLE PREDYNASTIC HOUSE is given by the model from El Amrah (Plate X), representing a solid structure of mud, or wattle and daub,

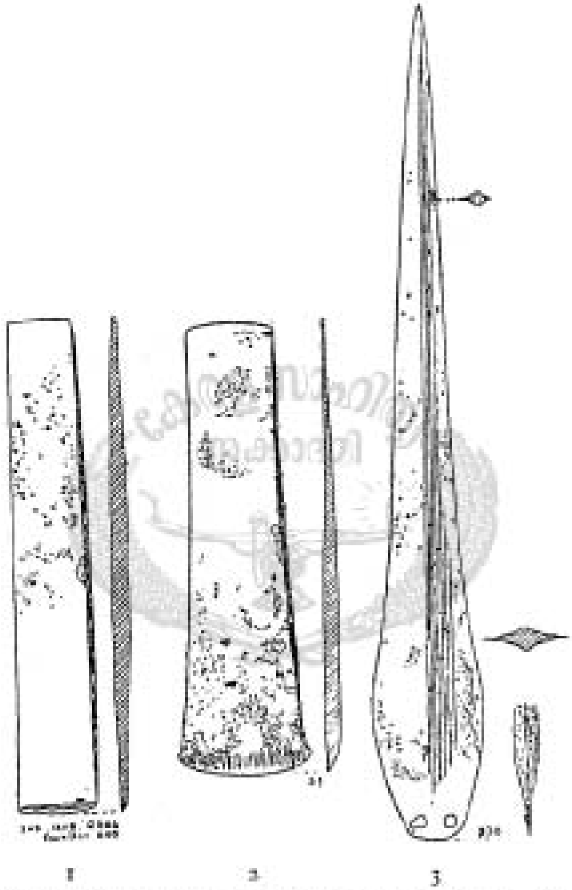


FIG. 32.—Copper flat celts and dagger from Naqada, $\frac{1}{3}$, after Petrie.

with a wood-framed doorway on one long side. Its area has been estimated at 25 by 18 feet.[6] In such communities, specialization of labour and consequent progress in craftsmanship are only to be expected. The remarkable achievements of the stone-borer who could work even the hardest rocks and of the glazier bear witness to such specialization. But copper remained rare. Flat chisels and adzes (Fig. 32), knives and razors (Fig. 33), and even needles (Fig. 17) and tweezers,

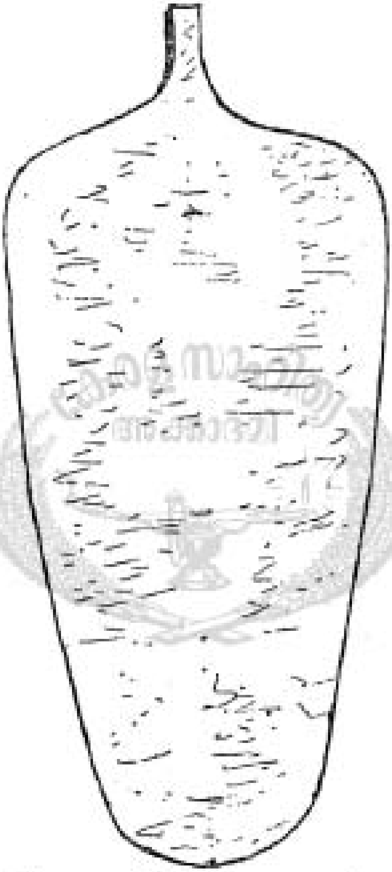


FIG. 33.—Flat knife or razor, $\frac{2}{3}$.

are found sporadically, but with the exception of one dagger with a mid-rib of S.D. 60 (Fig. 32, 3) none are specifically metallic types. The earliest metal daggers, dated to about S.D. 50, are flat and triangular, but the method of hafting in a hilt from which crescent-shaped arms project enfolding the blade on either side, is that which is distinctive of Egypt at all later dates (Fig. 34). And so the craft of the flint-worker flourished with undiminished lustre. Indeed in this period the flaking attained its acme in the wonderful serial flaking which, beginning soon after 40, culminated in the fine knives current from S.D. 55–66. These marvellous blades were just flakes that had been first ground before

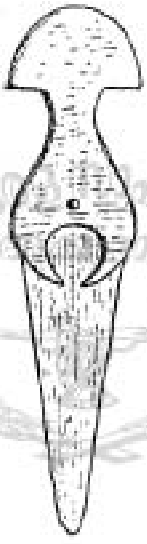


Fig. 34.—Flat copper dagger with ivory handle, El Amrah (restored), ½.

the long parallel scales were taken off by pressure-flaking, an operation that served no practical purpose (Pl. IX*d*).

Naturally trade was intensified, and in the Second Predynastic graves, lead, silver, amethyst, and turquoise are found as well as the foreign substances already mentioned in the previous period.

Progress in spiritual life is indicated in the enjoyment of a game like draughts as well as in the advances in religion. The use as amulets of the Falcon, symbol of the dynastic god of Menes, the Cow of Hathor, and the arms of other deities, may mean that these totems had been promoted already to the rank of local gods. But no shrines or temples have been identified: it is really the graves that give us the clearest idea of the progress of ideas at this period.

The shallow oval pit of the earliest graves had given place soon after S.D. 35 to an oblong trench. On one side of it after S.D. 40 a ledge was left to accommodate the offerings that were continually growing more numerous. Alternatively the whole pit might be filled with the funerary gifts and a small recess cut in the rock to receive the corpse. In other cases a sort of wooden shelter was erected round the corpse. Or the corpse itself might be enclosed in a wooden coffin or laid upon a bier of twigs.[7] By the end of the Second period at S.D. 63 rich men had their graves lined with mud bricks. One such sepulchre at Hierakonpolis[8] measured 4·5 by 2·0 by 1·5 m., and was divided into two equal compartments by a transverse wall. Other contemporary graves offer parallels to this division.

The Hierakonpolis tomb just mentioned offers one unique feature: its walls had been plastered over with a layer of mud mortar which had been washed over with a coat of yellow ochre to serve as the ground for a mural painting (Fig. 35). The artist had delineated in red, black, and white, scenes of the chase, of combats between men and ships, and dances, all in the style of the Decorated pots. The painting, crude though it be, is at once the ancestor of the later sepulchral frescoes, and the lineal descendant of the prehistoric vase-paintings. It thus supplies the needed link between the avowedly magical art of historic times and the reputedly magical art of the remoter past.

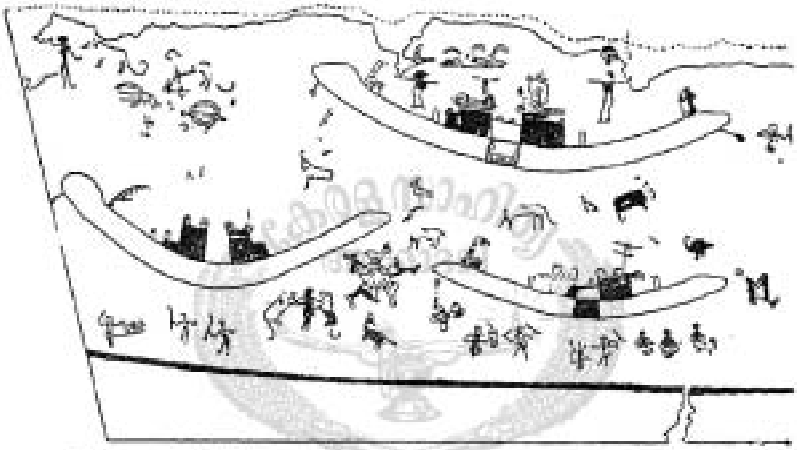


FIG. 35.—Painting on the wall of a tomb at Hierakonpolis.

The tomb series, just described, has also a sociological significance. In it we see increasing concentration of wealth and power, culminating in the single painted tomb of Hierakonpolis. No private clansman rested in that sumptuous sepulchre but at least a chief; out of the equalitarian squalor chieftainship has arisen preparing the way for the unification of the land under a king.

It is universally agreed that the new elements that distinguish the culture of Upper Egypt in the Second Predynastic phase are derived from the north or north-east. And it is almost certain that the authors of these innovations had been living in touch with the Upper Nile for a considerable time prior to S.D. 39, since before that date isolated Decorated Vases had occasionally found their way into Upper Egypt. Petrie [9] attributes this element at least to inhabitants of the eastern desert; there the physical conditions would admittedly encourage the use of stone for vessels, and thence, according to the pioneer of Egyptian prehistory, come pig-tailed people bringing to the first Pharaohs as tribute stone vases of the type actually found in the Second Predynastic graves. The Wavy-handled jars, on the other hand, have been connected by Petrie, Frankfort,[10] and Scharff[11] with Palestine and Syria. In any case Asiatic contacts are obvious. The pear-shaped mace, the theriomorphic vase, the spouted jug, probably the tradition of dark on light decoration and the technical processes it implies are all features of a great cultural province extending across Hither Asia as far as Kish and Susa that we shall come to know better in a later chapter. A quite isolated cylinder of S.D. 46 bearing a meaningless attempt at an inscription points in the same direction.[12] One root at least of the Second Predynastic civilization of Egypt is struck down deep into Asiatic soil. With this complex then might reasonably be connected the Osiris legends that point to Syria, and with its southward extension that first unification of the land under the authority of the eastern Delta as deduced by Junker from the legend of the contest between Osiris and Seth and other fables.

But if the Second Civilization belong culturally to an Asiatic province, its focus came to lie in the western Delta. There lay the land of the Libyan Tehenu, the original home of olive-culture according to Newberry, and in its immediate vicinity were extensive deposits of natron that could be used in the manufacture of glazes. Now, Newberry [13] has shown that out of 288 boats depicted on Decorated pots, 166 fly the ensign of the Harpoon nome situated in historical times on the Canopic mouth of the Nile, while 80 others bear the emblem of adjoining western Delta nomes. Another sign, the Fish, disappears from historical Egypt, but emerges on the oldest Ægean ships. And Newberry has shown that the chief port of Egypt lay in the western Delta in the Harpoon nome. It would therefore be through the mediation of the western Delta that Egypt came into contact with Crete, and probably some Syrian influences too were transmitted across the sea through this channel. In any case, in one Second Predynastic grave was found a miniature celt, pierced for suspension as an amulet : a type very common in Crete and Syria.

Thus the Second Predynastic culture was largely a product of Lower Egypt, and its extension to Upper Egypt denotes the cultural ascendancy of the North. Does the imposition of the new culture on the South and the power of the western Delta, as illustrated in the boat vases imported after S.D. 45, reflect the political domination from the north implied in the legend of the Shemsu Hor as interpreted by Sethe ? Are the barques flying the Harpoon standard the ships of the Mesniu or Harpooners[14] who accompanied Horus ? Did the advance of the new Second Culture southward correspond to that infusion of Semitic elements into an original Hamitic linguistic stock postulated by many philologists ? Was it at this time that the calendar of Memphis and Heliopolis and the script of the Delta were diffused throughout the whole of Egypt ? Does then the first Sothic cycle, 4236 B.C., coincide somewhat approximately with S.D. 45 ? All these theories seem plausible. The later hieroglyphic signs for the mace and the arrow are the pear-shaped and chisel-ended types of the Second Culture. The Falcon Horus appears among the signs on Decorated vases and the amulets in Second Predynastic graves. In the immediate vicinity of Horus' southern sanctuary we find a tomb that might almost be designated royal.

Of course this attractive theory is by no means universally accepted. Sir Flinders Petrie endorses the doctrine of a dynastic race from the south to whom the Horus clan must be assigned. On the carved ivory knife handles that belong to the end of the Second Predynastic age and record, according to Bénédite,[6] the struggles of the clans of Upper Egypt, the Falcon is absent. Hence the French savant contends that these monuments are pre-Horian ; that is to say the conquest of Upper Egypt by the Shemsu Hor must be dated after S.D. 63. The oldest record of the successes of the Falcon clan is the Lion Hunt palette that cannot be dated very much anterior to Menes or about S.D. 70. And its theme is a victory over Libyans in the western Delta. The interpretation of the Egyptian legends and their correlation with archæological monuments are matters for the philologist. To the theory of a dynastic race we shall ourselves return later in dealing with the Mesopotamian connections of Protodynastic civilization. Here it is important only to show that tradition is compatible with the archæological deduction of a high civilization once centred in the Delta and of its superposition on the native culture of Upper Egypt.

Down to this point it has been possible to explain the growth of civilization in the Nile Valley as a self-contained and continuous process. Though more than one racial element contributed to it and we distinguish two civilizations, all the more important discoveries and inventions may have been made within the Nile basin. The Second civilization has indeed Asiatic connections, but nothing *proves* its indebtedness to Asia; the Mesopotamian parallels may at least theoretically be interpreted as reflexions of a civilizing current from Egypt.

In the Nile valley, assuming the presence during the pluvial period of suitable plants, the conditions were ideal for the rise of regular agriculture. It is generally admitted that the cultivation of the olive was initiated in the western Delta. Being accustomed to paint their faces with malachite, the predynastic Egyptians were constantly handling copper ore the conversion of which to metal might easily happen before their eyes if some of the ore fell on to hot ashes.

In Badarian times the valley was still sufficiently wooded for the need of a tool to split timber to be felt and the development of the polished stone celt to be thus evoked. The riverine conditions were eminently favourable for the first experiments in navigation. And the First Predynastic people, as we have seen, already possessed a boat that has been claimed by many as the ancestor of all later ships. The rudiments of a script, based upon older palæolithic hunting signs, had already been devised, and given social sanction in Early Predynastic times. It may therefore fairly be contended that all the elements that distinguish neolithic and chalcolithic culture as defined among the barbarian Europeans had been created in Egypt out of the common palæolithic heritage of south and north.

At the same time the Egyptians could not live in isolation. The land lacked adequate supplies of timber (after Badarian times), malachite, spices, and other necessary raw materials. A progressive people with awakening needs like the predynastic clans would be obliged to procure these from without. At the same time the grass-lands still extending from the Atlantic to the Zagros were occupied by scattered nomadic tribes, which, despite their dispersion, must have formed a real continuum like the rare atoms in a vacuum tube. In any case foreign substances in Egyptian graves attest relations extending as far as Persia, Armenia, and North Syria. Thus there were abundant opportunities for the inventions and discoveries of the Egyptian to be disseminated and copied on the Iranian plateau, in Asia Minor and in Crete. We must later inquire whether the autonomy of Egyptian civilization and the dependence of all others be really as complete as is alleged. We are in any case now reaching a point when definite contacts were established with another centre of civilization that, whatever her past, was at this epoch originative, independent, and individual. The Late Predynastic and Protodynastic epoch of Egypt is distinguished by the appearance on the Nile of objects, technical devices, and artistic motives that were native and lasting in Mesopotamia but in Egypt occur only sporadically or enjoy a quite temporary vogue.

CHAPTER V

THE RISE OF THE DYNASTIES

THE period between S.D. 63 and 76 saw the transformation of villages into cities, the investiture of petty chiefs with the majesty of divine kingship and the union of the warring clans into a compact State. But of the cities nothing remains and it is only the gradual differentiation of the tombs[1] that allows us to infer the emergence of an ever more complex social hierarchy, while their furniture is the sole index of the impulse given to art and industry by contact with distant lands and the termination of internecine wars.

Throughout the period the poorer citizens were still buried in simple trench-graves. But now there were richer men who demanded a more elaborate home for the soul. The elaboration followed divergent lines that only began to converge again after the unification of the land. The cemetery of El Kab illustrates the growth of the trench-grave downwards. With the advance of time and concentration of wealth the tomb was dug ever deeper through the sand and into the underlying rock. Then steps had to be cut for the entry of the coffin-bearers and subsequent bringers of offerings, and a roof had to be built with posts and wooden beams. At El Amrah attention was turned to the

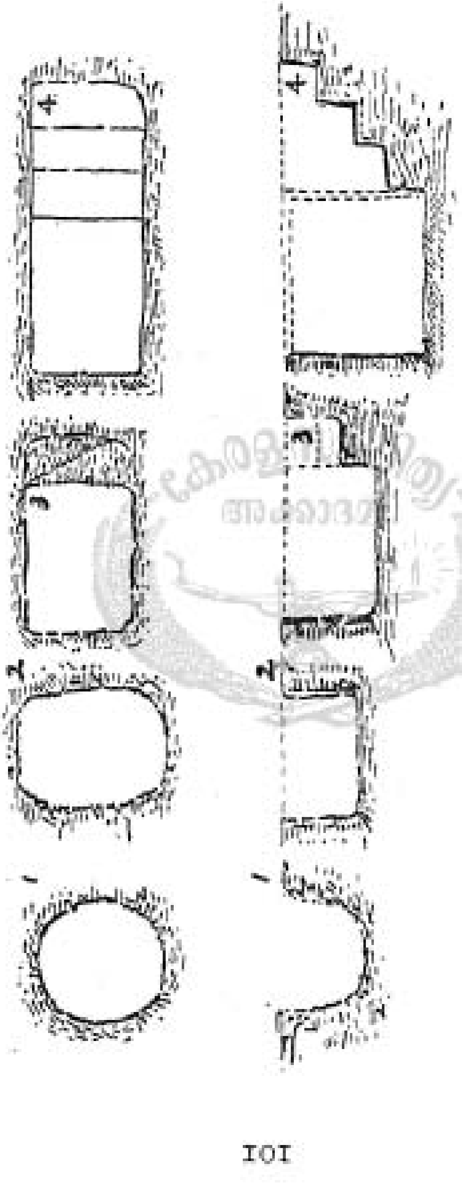


FIG. 36.—Evolution of tomb types after Garstang.

recess for the body ; it was enlarged, divided from the original pit by a wicker partition and eventually transformed into a distinct room, the wicker partition being replaced by a brick wall. In other cases the trench was lined with brick or timber walls and eventually divided into a grave proper and a chapel of offerings by a transverse wall as in the painted tomb at Hierakonpolis. In another tomb[2] at the same site, unfortunately undateable, the chamber was formed by three upright slabs of desert sandstone roofed by a fourth after the manner of a dolmen.

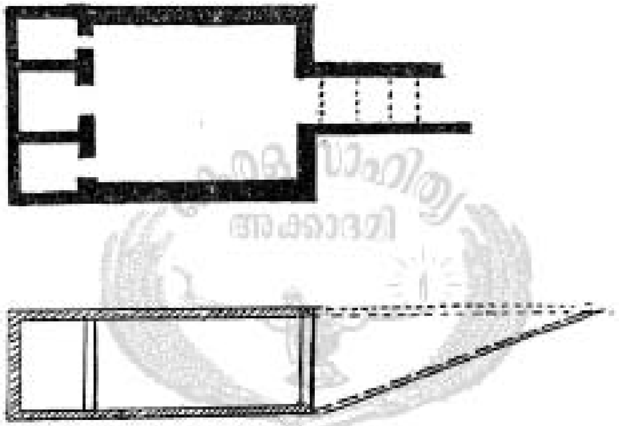


Fig. 37.—Early dynastic chamber tomb.

In a second series beginning about S.D. 77 a superstructure begins to appear above the ground. Some neolithic graves near Helwan had been marked above ground by a pile of stones, and it is thought by Reisner that the earlier bricked tombs were surmounted by some structure on the ground level to serve as a monument and a chapel for funerary offerings. In the private tombs of the First Dynasty the grave proper was just a deep shaft above which was a brick-walled chamber apparently filled with sand. But on the west side of this and communicating with it by two low slits was a smaller chamber, always found filled with vases and presumably serving as a mortuary chapel (Fig. 38).[3]

In the Royal Tombs of the First Dynasty at Abydos [4] a serious attempt was made to reproduce underground the house of the living. The grave was a huge brick-lined pit 43 by 48 feet square. In its centre stood the burial chamber proper, a wooden hall 28 feet square. The planks enclosing it were supported by buttresses projecting from the walls of the shaft forming a series of small store-rooms. The whole structure was surrounded with rows of smaller tombs containing

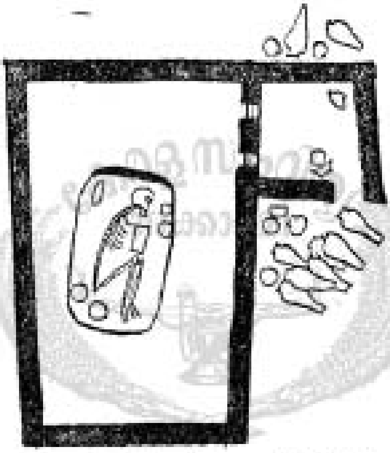


Fig. 38.—Small *mastaba* Tarkhan.

the bodies of courtiers and dependents. It is uncertain whether these had been slain to accompany their royal master to the grave. By the end of the First Dynasty the plan was completed by the addition of a stepped passage leading down to the chamber, and the pit was sometimes floored with granite slabs.

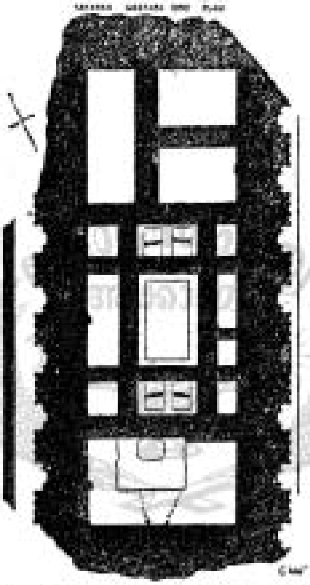


Fig. 39.—Great brick *mastaba*, Tarkhan.

In other tombs of the same reigns, however, the superstructure, seen in a rudimentary form at Tarkhan, was converted into a monumental erection termed a *mastaba* (Fig. 39).[2] This was an enormous rectangle of brickwork enclosing several small chambers under the central one of which the grave-shaft proper was dug. The outer wall was recessed in a peculiar manner, two of the recesses on the eastern wall being distinguished by a wooden or brick pavement. These recesses served as funerary shrines. The whole complex was encircled with a brick wall, and in the passage between the wall and the face of the mastaba the bodies of attendants and in one case of two asses were interred. Under the Third Dynasty the whole structure was translated into stone while the subterranean portions were enlarged and provided with a stepped entrance passage. Finally, the superposition of a series of mastabas one upon the other produced under Zoser the famous stepped pyramid of Saqqara.

It is thus possible to present the funerary monuments from Middle Predynastic times down to the Third Dynasty as a self-contained evolutionary series. Whether this continuity is real or apparent is a question to which we shall return when a description of other aspects of protodynastic culture has been completed.

The growth of wealth, the concentration of power, and the rise of city life are equally reflected in the progress of the industrial arts. Copper is now in general use for tools and weapons and also for vessels. The tools in use include flat axes (celts) with parallel sides and no expansion of the blade, adzes with rounded butts, and a battle-axe with rounded blade, neither provided with sockets, but just stuck into the shaft. The adze has sometimes a rounded butt. The rise of such types coincides with a revival of carpentry consequent upon the establishment of regular communication with Syria. Flat, double-edged knives and copper harpoons were taken over from an earlier age (Fig. 40), but the fish-hook—of copper (Fig. 17, 9)—appears for the first time under Menes' dynasty. Copper daggers have a rhomboid outline and are strengthened with stout mid-ribs. The spear-heads had a flat tang which fitted into the split end of a shaft ; and a copper ferule encircles both shaft and tang in an example from Tarkhan but no socketed weapons are known and it is certain that the Egyptians were unacquainted with core-casting.

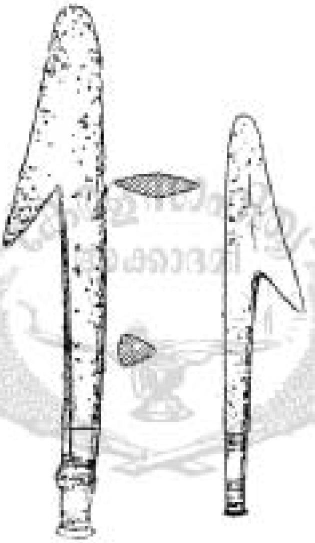


Fig. 40.—Late Predynastic copper harpoons, $\frac{2}{3}$.

But metal had by no means ousted flint. Indeed, even under the earlier dynasties copper was rare, and as late as the Pyramid age the tools for great constructional works, to say nothing of agriculture, were of stone. From the early town[5] sites come hundreds of hoes chipped out of flint nodules (Fig. 41), sickle-teeth, rough blades, disc-scrapers, and other flake-implements, often well worked though never reaching the perfection of the

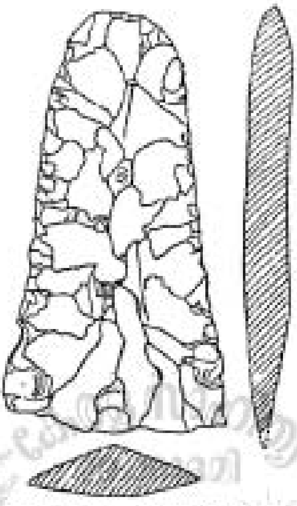


Fig. 41.—Flint hoe, ½.

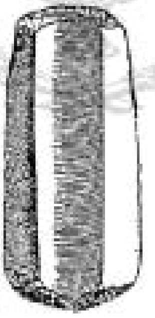


Fig. 42.—Flint razor blade, ½.

Middle Predynastic serial flaking. Some interesting series illustrate the connection of the early flints with later metal implements. A razor with one end rounded (as in the classical "end-scraper on blade") and the other squared can be traced from Menes' time till in the tomb of Hetep-heres it occurs side by side with its gold counterpart, a tanged razor. In the same tomb the final form of the square-ended flake, a rectangular chip perfectly flat on the bulbar surface and evenly bevelled on the opposite face, appears associated with an exact copy in gold; evidently it, too, was a toilet implement.

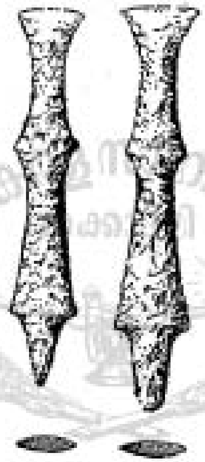
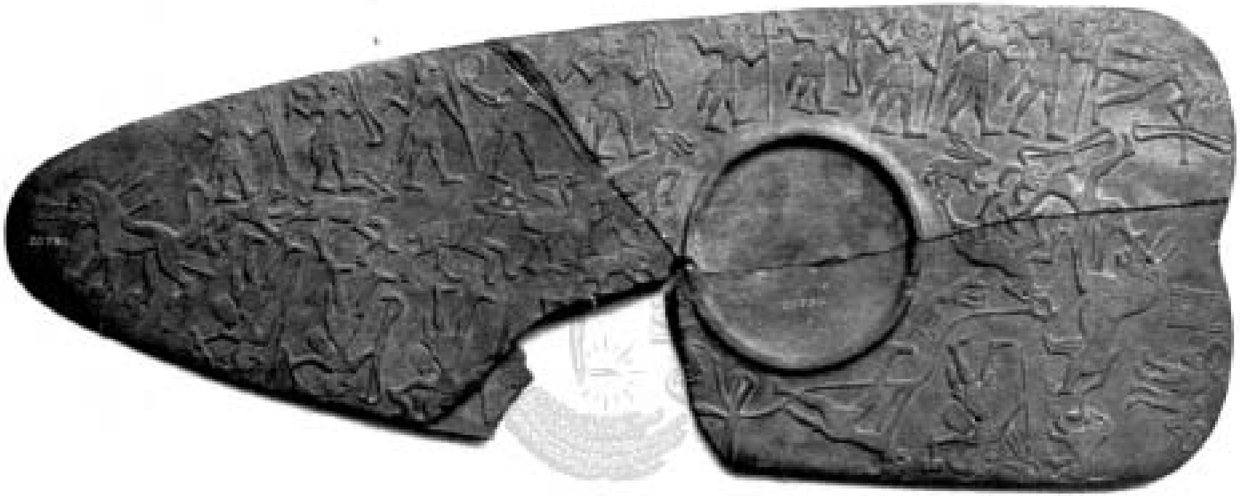


FIG. 43.—Chisel-edged flint blades, Royal Tombs, ½ (Zer-Ta).

Other protodynastic types are finely flaked, chisel-ended flint blades, perhaps descended from the swallow-tailed blade of the previous epoch (Fig. 43), the pear-shaped mace, the chisel-headed arrow, the boomerang

PLATE XI



THE LION-HUNT PALETTE

[face p. 109

and the shield with concave sides. On the Lion Hunt palette we see also a weapon often taken to be a double axe. The artist has, however, been at pains to show that the shaft does not pass through the head as in the Minoan weapon but round it. Probably we are here dealing with a grooved mace-head an approximation to which at least has been found in the Fayum industry. It is, however, uncertain whether the same interpretation can be applied to two figures, identical with the Minoan double-axe sign, scratched on protodynastic vases.[6]

Æsthetically the pottery declines, but some think that a sort of potters' wheel was coming into use. Painting dies out during the sixties and eventually only red or drab, hard-baked vases survive. The preference for pointed bases and a rim-collar is noticeable but handles are absent. An important type appearing first about S.D. 70 is the open tubular stand whose walls are often perforated with triangular apertures ; precise parallels are common in Mesopotamia.[7] The decline of fine ware has a dual cause. On the one hand earthenware is ousted by metal and fine stones from the tables of the rich. On the other with the specialization incident upon city life the potter becomes industrialized and turns from craft-work to mass-production.

The stone vases are again on the whole more monotonous. The beautifully varied stones sought out in the Second Predynastic are now abandoned for the alabaster and basalt that had enjoyed a preference also in the First, though vessels of obsidian and rock-crystal from the Royal Tombs constitute exceptions. By far the commonest shape is a tall cylindrical vase, though squat bowls with tubular handles and undercut rims derived from a well-known Second Predynastic shape are very popular. An important new type, however, is provided by blocks with twin cups bored out in them; this type, like the clay stands, has very definite Mesopotamian analogies.

Besides clay and stone, vases of glaze and fayence appear in the Royal Tombs. And metal vessels are represented by dishes, tumblers, a pedestalled goblet made in two pieces, with a ring encircling the stem where foot and body join (Fig. 44), and rather later by jars with a spout brazed on.

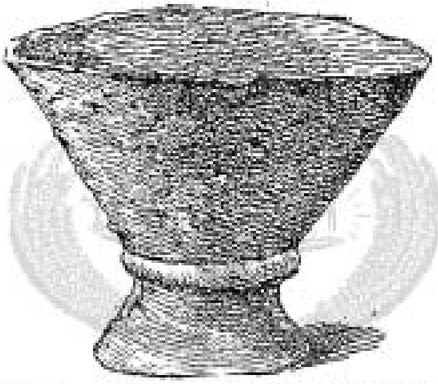
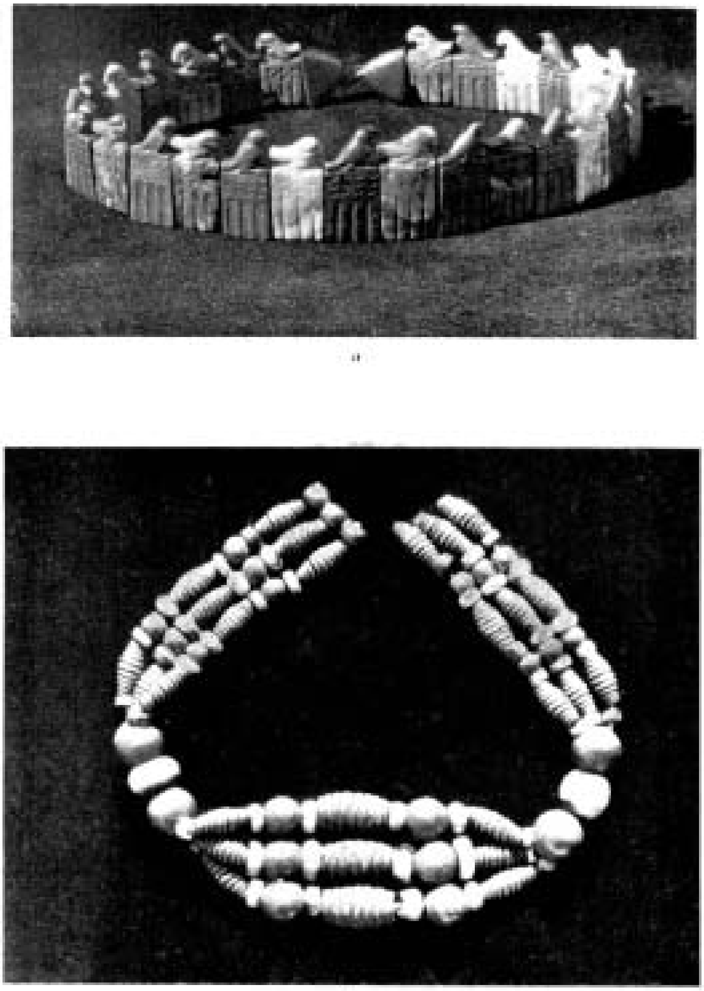


FIG. 44.—Copper goblet, Royal Tombs, ½.

The craft of the carpenter may be illustrated by couches with the legs carved to represent bulls' hoofs [8]; such served as biers from S.D. 66.

PLATE XII



a

b

a—*b*. BRACELETS FROM TOMB OF KING ZER $\frac{1}{1}$

[*face p.* 111

A few toilet articles and amulets may be noted here. Slate palettes in animal form, but generally highly conventionalized survive till the beginning of the Dynastic age, and indeed in a magnified version serve as a vehicle for the records of the Falcon clan and of its princes, but the normal type after S.D. 70 is rectangular. Among the ornaments spiral beads of stone burnished with gold occur between S.D. 65 and 72[9] and iron beads[10] are dated to 72 likewise. Under the First Dynasty fayence is quite common and a spirally gadrooned long barrel bead (Plate XII) is very characteristic. The original form is given by coiled gold wire ; this was then copied by engraving on lapis. A large number of new

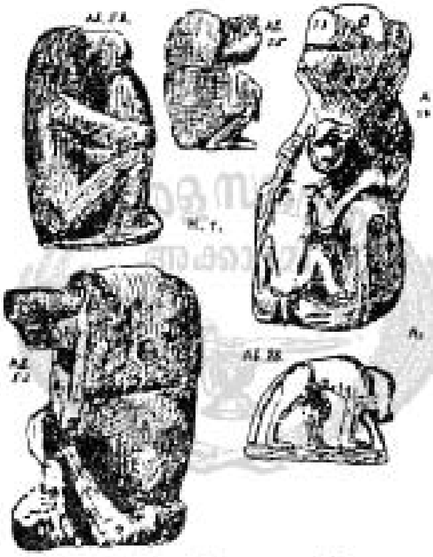


FIG. 45.—Figures of apes in stone and fayence, about ½.

animals[8] begin to appear as pendants, amulets, or gaming-pieces, notably the lion after 64, the baboon before 77, the frog or toad about 65, the scorpion after 70, and a bird—perhaps a dove—about 77. All these types have more or less close Mesopotamian parallels. A camel from Abusir el Meleq is, however, very puzzling, and may be a descendant of a hypothetical pleistocene race from North Africa.

Cylinders appear as amulets after S.D. 65, and under the First Dynasty at latest they are used regularly as seals for the authentication of documents and bear inscriptions. By that date too, writing is in regular use; though the hieroglyphs have not yet assumed their final form, the main principles of the script, the use of determinatives, for instance, are already established. But even as early as S.D. 63, one of the characters of the later script appears on a slate palette apparently already as a glyph.[11] The ancestry of the script, whose signs are essentially Nilotic, should perhaps be sought in some pictorial records kept by the clans which are implied in certain ivory knife-handles, already mentioned and dating from the end of the Second Period. Alternatively a body of magic pictures such as are illustrated in the funerary paintings and petroglyphs of prehistoric times might have supplied the material for a system of writing, since the later hieroglyphs possessed not only a phonetic or ideographic value but also a magic power. The development of the regular script would in any case be promoted by the emergence of individuals, royalties who wished to perpetuate on monuments their personal names and also by the necessities of foreign trade.

For the existence of an urban civilization such as had grown up already in protodynastic times was only possible through the maintenance of permanent and regular relations with outside countries. Copper ore must be mined in Sinai, gold in Nubia, and cedar wood for the Royal Tombs was brought by ship from Byblos. Marble was imported from Paros and from Asia came obsidian, now in quantities sufficient for the manufacture of vases, lapis lazuli, and other stones.

Direct proof of protodynastic intercourse with North Syria is afforded by the French excavations at Byblos [12] where a flint knife, a late theriomorphic palette, a vase in the form of a camel and other articles of indubitably Egyptian provenance have been unearthed. By the Second Dynasty a stone temple had already been erected at that site, perhaps the oldest stone building in the world. Corresponding proof of trade along the Red Sea is afforded by a late predynastic cemetery at Ras Samadai (latitude 24° 59′ N.) [13] containing Late Predynastic vases and slate palettes. The multitude of Red Sea shells in protodynastic graves and town sites indicates the regularity of trade in this direction, and the *Tridacna* shell that begins to appear in Crete [14] about this time must have come by way of Egypt.

The certain or problematical Mesopotamian contacts must be considered in the light of the trade relations thus disclosed. The evidence consists in the temporary adoption by the protodynastic Egyptians of devices and artistic motives that constituted permanent elements in Mesopotamian civilization.[18] None of the actual objects found can possibly be regarded as Babylonian products ; the Mesopotamian devices were elaborated in a thoroughly Egyptian way ; the Mesopotamian motives adorn purely Egyptian objects and the contacts are spread out over the whole of the Late Predynastic and Protodynastic age.

At the very beginning of the period at S.D. 63 we encounter a whole group of foreign objects and motives depicted together on two thoroughly Egyptian monuments. The monuments in question are an ivory knife-handle found at Gebel el-Arak and the painted tomb of Hierakonpolis already mentioned. The sites of the discoveries are significant ; they lie near the termini of well-marked caravan routes to the Red Sea.

Both documents depict a boat, foreign to the ordinary monuments and represented as in conflict with the usual Nilotic ships as depicted so frequently on the Decorated vases. The foreign vessel is distinguished from the papyrus barques above all by its tall prow and high stern. The type appears in Egypt besides only on two late Decorated pots (Fig. 46) and on a few isolated monuments of the First Dynasty. It can hardly be derived from the old papyrus boat but on the other hand might easily grow out of the type of boat illustrated by the oldest monuments found in Mesopotamia. And in fact representations of boats very like ours are found on Sumerian vases early in the third millennium.

The Gebel el-Arak knife-handle again depicts a dog, very different from the older Egyptian greyhound type but identical with the oldest Babylonian.

On the knife-handle again, and in the tomb-painting, we see a group representing a hero dompting two lions. The theme is strange to Egyptian art, but on the other hand was very popular in Babylonia. The impression of Mesopotamian inspiration becomes irresistible when we observe that the hero is wearing a full beard, while the cap on his head and the long robe that drapes him are no less typically Sumerian. The whole scene might be used to illustrate the Gilgamesh epic ; yet, Hall[16] rightly says, " The hero looks more like a god of the desert between the Nile and the Red Sea than a

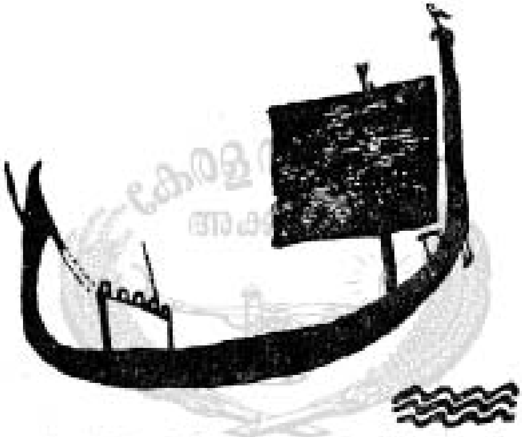


Fig. 46.—" Foreign " ship from late Decorated pot.

Gilgamesh or an Elamite — a god conceived by his worshippers under a form strongly influenced by Mesopotamian and Elamite ideas brought to the coast (? of Magan) by sea and executed by a predynastic Egyptian artist."

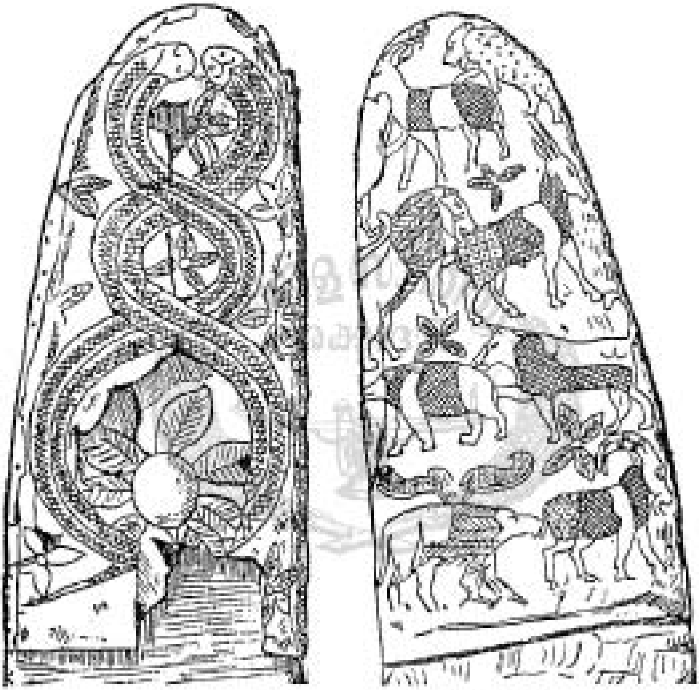


FIG. 47.—Ivory handle for a flint knife like Fig. 26, 86.

The lion grasping a bull by the hind quarters on the Gebel-el Arak handle and the processions of animals on others are again themes that recur repeatedly in Mesopotamia. So too do the monsters with entwined necks and the rosettes carved on another knife-handle (Fig. 47), and on the later slate palette of Menes.

Among the animals that appear as novelties in the Late Predynastic plastic the lions, apes, toads, and scorpions all recur in Mesopotamia. In particular ie earliest Egyptian sculptures of the lion (Fig. 48) epict the beast with gaping jaws in the manner of Susa id Babylonia—a treatment which was subsequently bandoned in Egypt.[16]

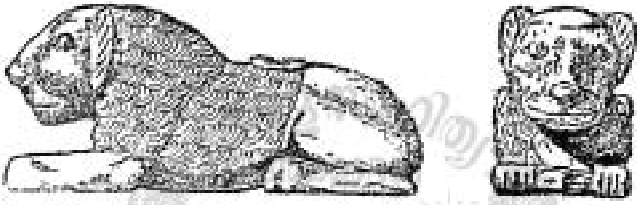


FIG. 48.—Gaming piece in form of a lion from First Dynasty Royal Tomb, $^1/_2$.

With the rise of the First Dynasty still more agreements with early Mesopotamian usage are noticeable. Some of the oldest dynastic monuments are carved mace-heads, one of which represents the Sed festival of the first Pharaoh. Now the piriform mace has a very long history in Babylonia and was regularly used there as the vehicle for votive sculptures. So too a couple of broken vases with figures carved in low relief suggest Mesopotamian influence since such carved vases were very popular in early Sumerian times and enjoyed a long vogue in the Tigris-Euphrates valley while they never took root on the Nile. Still more unmistakably Asiatic are the tubular stands or supports of baked earthenware already mentioned. Similar objects have been found in the oldest strata at Assur, Fara, and elsewhere in Mesopotamia and also in the second culture at Susa, everywhere decorated with the same triangular excisions as in Egypt.

Great importance has also been attached to certain architectural features observed in the Royal Tombs and early mastabas. The recessed brickwork in particular has parallels in Babylonia from the earliest times onward, and survives in Irak to-day. But it must be noted that this sort of façade only copies in brick a type of building originally evolved in wood. On one view the recessed wall represents the façade of a pillared hall between the pillars of which were fixed light wooden doors. Later Egyptian coffins illustrate something of the sort ; the false doors of the early stone mastabas are certainly painted to imitate wood, and at Tarkhan [17] wooden panels that could be fitted together to give precisely the assumed effect were actually found. On the other hand, the paintings of the recesses in the tomb of Hesy at Saqqara and the tiles of Zoser's new tomb show that in some cases the spaces between the columns were closed with reed mats, and Woolley [18] has pointed out that these mats bore Syrian and not Egyptian patterns. The same author has traced the recessed brick-architecture of Sumer to the prediluvian huts of matting supported by posts, so that, even if the similarity of the Egyptian and Mesopotamian brickwork be not due to direct imitation, it rests on a community of pre-existing architectural types. And the reed and timber prototype is not attested for the Nile in predynastic times.

But the earliest Egyptian tombs resemble the Mesopotamian in more than accidental features. The tombs of Menes and his successors represent attempts to reproduce on a small scale at the bottom of a great shaft the hall of the king. And so do the earliest royal tombs of Ur just excavated. The bodies of Menes' courtiers were interred in annexes to his tomb ; and at Ur the king's whole retinue was slain and buried with him. The two asses[10] and a menial buried in the corridor of a mastaba at Tarkhan recall the harness-asses and their drivers found in the tombs of Kish and Ur. All these agreements in funerary structure and practice are certainly more than accidental.

The cylinders that under the first dynasties were used as seals are, though inscribed in every case with Egyptian characters, a device indigenous to Mesopotamia that persisted there long after it had been abandoned on the Nile. And the hieroglyphic script itself, though its elements consist of purely Nilotic plants and animals, agrees so strikingly with the Babylonian in its curious combination of phonetic signs with ideographs and determinants that the two systems must be somehow interrelated.

The cumulative effect of all these comparisons is conclusive. Sumer and Egypt at the time of the oldest kings were no longer mutually isolated but were in direct or more probably indirect but regular communication. As to the mechanism of these relations opinions differ. Petrie speaks of invasions by Elamites and with de Morgan invokes the intervention of a Sumerianized "dynastic race". The latter would have been responsible for the introduction of writing, the intelligent use of metal, artistic sense, sculpture upon stone, carpentry on a large scale, the potters' wheel, and the monumental tomb.[20]

Other authorities are content to invoke trade relations along the Red Sea supplementing those by Syria that may go back to Second Predynastic times. And the traders need not have been Sumerians but intermediaries such as the inhabitants of Magan, a sea-faring people often mentioned by the Sumerians. Many of the phenomena would indeed be better explained by the assumption of a third centre from which influences radiated simultaneously to Egypt and Sumer.

The issue between commercial and ethnic explanations of the Mesopotamian contacts is not a profitable theme. Let us, however, note that in the Royal Tombs a new physical type, still dolichocephalic, but larger and more robust than the earlier predynastic people, appears in Egypt for the first time. And later on when the capital was transferred to Lower Egypt under the Third Dynasty a brachycephalic "Armenoid" type becomes prominent among the upper classes.[21] Let us note, too, that the

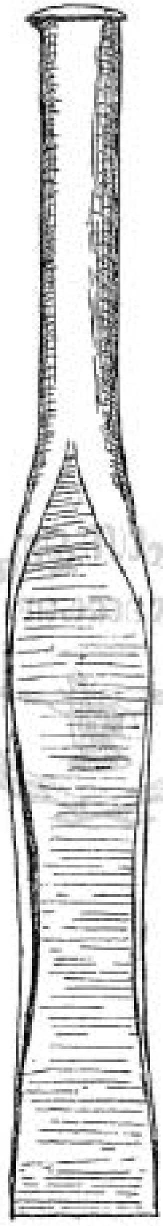


FIG. 49.—Copper chisel with "flanged" blade from the tomb of Hetep-heres, the mother of Cheops.

[page 121

protodynastic slate palettes certainly depict a variety of racial types among the enemies and followers of Menes; Petrie[22] distinguishes as many as six. Plainly then the racial prehistorian has plenty of material to play with.

Nor are the ethnic and commercial explanations altogether incompatible. Petrie's dynastic race might be identified with those "followers of a god of the Eastern Desert conceived under a form strongly influenced by Mesopotamian and Elamite ideas brought by sea" postulated by Hall.

It is of much greater importance to decide to what extent Egypt was merely passive in her relations with Mesopotamia. That is a question partly dependent on the chronologies of the two countries which are uncertain just at the vital points. On the existing evidence the Royal Tombs of Ur display a higher civilization than we have in Egypt at that date. In addition to wheeled vehicles Sumerian metallurgy had attained a far higher degree of perfection than that illustrated by any Egyptian finds of the first two dynasties. Yet when we come down to the end of the Third Dynasty the sculptures and architecture in stone under Zoser far surpass any Mesopotamian achievements, and the metal work of Queen Hetep-heres' tomb is nearly as good as anything produced in Sumer. If the Sumerians had invented the shaft-hole axe, the Egyptians discovered the principle of the flanged celt (Fig. 49). But a just comparison can only be made when we have traced the genesis of Sumerian civilization as we have the growth of Egyptian.

CHAPTER VI

The First Prediluvian Culture

Human remains comparable in antiquity to the palæolithic flints of Egypt can hardly be expected in Babylonia. The alluvial plains where Sumerian civilization attained its apoge are of quite recent formation. The detritus from the Armenian-Persian mountains brought down by the Tigris and Euphrates is gradually filling up that pocket at the eastern end of the tilted peneplane of Arabia and at the foot of the folds of the Persian Mountains, that was presumably at one time flooded by the sea. To-day the deposit of the rivers is silting up the head of the Persian Gulf so rapidly that the coast line advances about one and a half miles a century. In the seventh century B.C. the Kerkha, which now joins the combined stream of the Tigris and Euphrates opposite Basra, debouched into the Persian Gulf, and Sennacherib had to sail 160 km. from the mouth of the Euphrates to reach its estuary.[1] At the beginning of historical times a tidal lagoon[2] extended inland almost to the foot of the limestone ridge on which stand the ruins of Eridu, the first royal city of Sumerian tradition. The sites of the great Sumerian cities farther north may just have been emerging from similar lagoons in the fifth millennium. At Kish the level of the plain has been raised over 25 feet by deposits of silt since the first settlements were established there.

The alluvial plain that was being slowly raised by the streams as the surrounding lands fell a prey to drought took on the aspect of a paradise in the eyes of its neighbours. The snow-fed rivers by their inundations and with the aid of canals might be made to supply the deficiencies of the heavenly waters. The alluvial flats were ideal soil for the date palm that would provide food for man and whose cultivation would help to instil sedentary habits in the breast of the nomad. On the mountain slopes to the east wheat and barley are said to grow wild. And the same ranges support mouflon sheep and goats capable of domestication, while the marshes were inhabited by swine. But even more than in Egypt the gifts of nature could only be enjoyed by man at the price of co-operation. To render the marshes fruitful and habitable the settlers must combine to dig canals and to raise mounds that should put their settlements above the reach of inundations. The ancient Sumerian creation legend, wherein order is conjured out of the primeval chaos by the separation of land from water, preserves a vivid recollection of the task imposed upon the first colonists.

To counterbalance the country's wealth in foodstuffs, it is even worse provided than Egypt with other primary materials. Timber and stone for building and the raw materials for industry must all be imported.

Even more than the Egyptians, the inhabitants of Babylonia must maintain regular intercourse with adjacent lands. So they would be in a position to diffuse the light of such civilization as they evolved. Incidentally the fact that stone and flint were almost as hard to obtain as copper ores would encourage an intensive use of metal where the Egyptians were content, even in early historical times, to keep to ancestral flint tools.

But the relations between Babylonia and her neighbours were destined to be of a different order to those of Egypt. The latter country is easily defended, and from the beginning of the historical period successfully closed her doors against foreign aggression, save for brief episodes like the Hyksos interlude, for 2,000 years. The Tigris-Euphrates valley is far more exposed. Westwards the land slopes up gently to the heights of the Arabian plateau, always a nursery of peoples despite its dryness, and the Euphrates provides a path leading down from Syria and Anatolia. Through the steep mountain walls on the north-east a series of clefts, carved by tributary streams, gives access from the Iranian and Armenian tablelands to the basin of the Tigris and Euphrates. The fate of Mesopotamia was consequently intimately bound up with that of surrounding countries while Egypt in comparison enjoyed a fortunate isolation. From the west came repeated incursions by Semitic tribes whose leaders eventually secured the sovereignty. The Semites have left their stamp on the religion, language, and armament of the ancient Babylonians. The contributions made by the no less frequent incursions of Elamites, men of Gutium, Kassites, and other folk from the opposite side of the valley are less easily estimated. Yet it is quite possible that the oldest colonists of the Tigris-Euphrates valley reached Southern Babylonia from that quarter.

While the lowland was still marsh, the Iranian plateau was in all probability already habitable. And it was no less well provided with noble grasses and domesticable animals than Babylonia. In addition, the encircling mountains are rich in copper and other metals ; obsidian and lapis lazuli both occur, and on the eastern frontier there are deposits of tin. Hence, when the rains of the pluvial epoch had filled the depressions with standing waters, the conditions were ideal for the rise of a progressive civilization while the desiccation that was to be so beneficial for Mesopotamia might impel emigrations from the plateau.

It is certain that the oldest human remains found in Southern Babylonia are connected with a great cultural province whose centre lies to the east on the highland. At al 'Ubaid near Ur of the Chaldees, Woolley has unearthed on virgin soil hut ruins, buried deeply beneath protohistoric foundations, and graves, disturbed by the oldest Sumerian interments. These discoveries enable us to assign to the prehistoric—or in harmony with Sumerian tradition let us say Prediluvian—

period, chance finds of implements and pottery from other sites. From Bushire on the Persian Gulf, Eridu, Ur, Samarra, and even Tell Zeidan far away on the Lower Balikh, come remains of this prediluvian culture.[3] But the pottery found at all these Mesopotamian sites has the closest affinity with a series of wares from sites on the tablelands extending from Elam and Western Persia to Seistan and even Baluchistan. It is indeed the hall-mark of a great cultural province occupying the whole plateau and best illustrated at Susa in Elam.

The only sites in the province where scientific excavations on a large scale have reached these prediluvian levels are, in fact, Susa[4] and al 'Ubaid.[5] At the former site the remains that concern us are overlaid by others containing monuments of a different, but still prehistoric, culture that is also found in Mesopotamia, but apparently exclusively in the north, notably at Kish and the adjacent site of Jemdet Nasr. The civilization revealed in the lowest levels at Susa and at al 'Ubaid may accordingly be qualified provisionally as the First Prediluvian culture in contrast to that of Susa II. We shall describe its general traits as revealed by the excavations at both sites with the reservation that in many respects the remains from the Babylonian site seem more advanced and actually later in date than those from Susa. Indeed, the First Prediluvian civilization is a far looser and more abstract unity than the First Predynastic civilization of Egypt, as might indeed be expected considering its enormous geographical range and the diversity of countries comprised within its bounds.

The first township at Susa was planted on a low spur above the plain of the Kerkha and defended with a wall of sun-dried brick or perhaps just stamped earth. The site of al 'Ubaid was an island of river silt just rising above the marshy alluvial plain that was still in course of emergence. The dwellings had flat or barrel-shaped roofs and walls of wattle and daub or of matting. At al 'Ubaid there are traces of posts from which hung reed-mats plastered with bitumen to constitute the house-walls and of the cupped stones lying flush with the threshold on which, as in all later Babylonian houses, the doors were pivoted. Inside the huts stood hearths built of mud-bricks. The bricks were flat on one side and cushion-shaped on the other—plano-convex is the technical term—like the oldest Sumerian bricks, but had been merely dried in the sun and not kiln-fired.

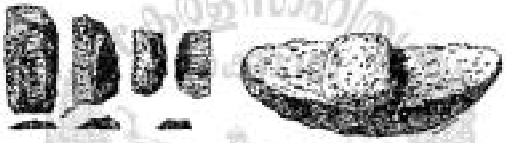


Fig. 50.—Sickle teeth and saddle quern from Susa I after *Mem. Del. Perse*, xiii.

The villagers in both cases certainly cultivated grains which they milled on saddle-querns (Fig. 50). In all probability they possessed domestic animals. But they hunted and fished and, at least in Babylonia, manufactured boats with high prows and sterns like the modern Arab vessels. Fine garments were woven of linen, and the arts of the potter, stone-grinder, and carpenter flourished. Moreover, copper was not only known, but even at Susa its properties as maleable and fusible were fully appreciated and it was employed for tools and toilet articles such as mirrors. A vitreous paste was also manufactured. Commercial relations of some sort were sufficiently well established to bring obsidian in abundance from Armenia to the banks of the Kerkha and Southern Babylonia together with bitumen from the wells near Hit. Lapis lazuli from Central Persia or Afghanistan has been found at Susa I, at Eridu, and at Tell Kaudini in Baluchistan. The dead were carefully buried in regular cemeteries, at Susa lying just outside the town wall. Normally the bodies were interred in the contracted posture, but sometimes

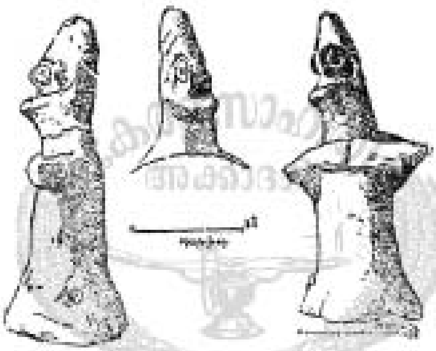


FIG. 51.—Clay figurine Susa I.

the final burial only took place when the skin had decayed from the bones; in such cases the skull was deposited in a bowl and the long bones in a big tumbler.[7] Figurines of men and women were also manufactured and, since the skeletons have rotted away in the alkaline soil, these give the only idea we have of the appearance of the people. At Susa the representation of the eyes as round discs is peculiar (Fig. 51). The South Babylonian figures indicate that the hair was done up in a bun behind while the beard was allowed to grow long.

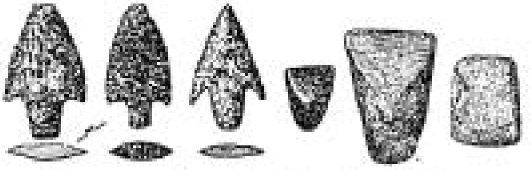


Fig. 52.—Arrow-heads and celts, Susa.

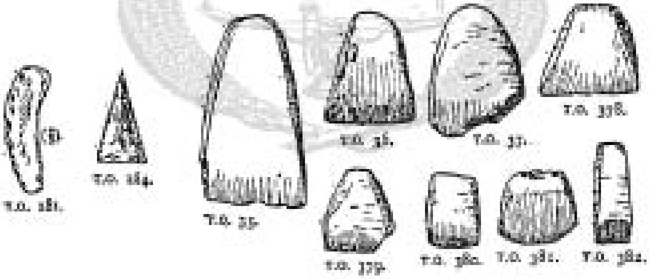
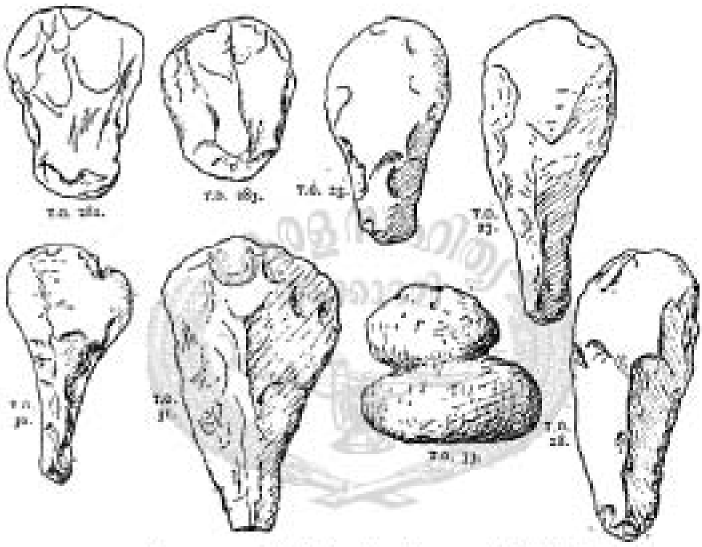

T.O. 181.
T.O. 184.
T.O. 35.
T.O. 36.
T.O. 37.
T.O. 378.
T.O. 379.
T.O. 380.
T.O. 381.
T.O. 382.

Fig. 53.—Flint arrow-head and stone celts, al 'Ubaid, $\frac{1}{2}$.

The archæological traits that distinguish the First Prediluvian culture may be summarized as follows. Polished stone celts, trapeze-shaped in outline and often with squared small sides were used as axes or adzes at all sites (Figs. 52, 53). Spatuliform implements, sometimes ground but more often fashioned out of chert by flaking and strongly reminiscent of Lower Palæolithic hand-axes, served presumably as hoes (Fig. 54). Stones with a groove round the middle from al 'Ubaid may have served as net-sinkers as Woolley supposes, but they may in reality represent those grooved hammers that throughout the world are found in the oldest prehistoric mines. At Susa semicircular knives were fashioned out of limestone pebbles by grinding (Fig. 55). Everywhere obsidian, flint, chert, and rock-crystal blades were worked up into


T.O. 261.
T.O. 183.
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T.O. 93.
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T.O. 31.
T.O. 33.
T.O. 28.

Fig. 54.—Flaked chert hoes, al 'Ubaid, ½.

knives, borers, arrow-heads, and sickle teeth. In Southern Babylonia curious sickles were made of clay; they imitate the animal's jaw-bone, that served as the prototype for most sickles, and may have been armed with flint teeth.

But copper also was already employed at this date for the manufacture of axe-heads; the copper flat-celts are solid implements whose blades are splayed out—in a word thoroughly metallic types implying a full comprehension of the properties of copper and the methods of working it and a regular and adequate supply of the material. Moreover, a clay model of an axe with a hole for the shaft from al 'Ubaid is almost certainly a copy of a metal original. In this case the First Prediluvian people in Southern Mesopotamia must be

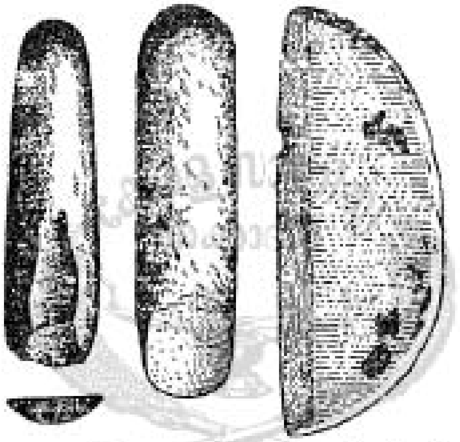


FIG. 55.—Limestone pebbles ground to form chisels and a knife, Susa I.

accredited with the discovery of the process of core-casting and the invention of the shaft-hole axe. Besides axe-heads, stout chisels, punches and even needles with an eyelet were made out of copper at Susa. And clay models of nails from Southern Babylonia suggest that there at least copper nails were already in use as they were in the immediately succeeding period.

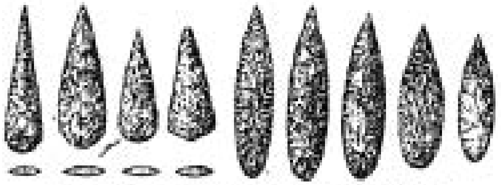


Fig. 56.—Flint arrow-heads, Susa I.

The principal weapons were the sling, the bow and arrows, often depicted on the vases, and the mace. The sling-stones at Susa were often painted red.[6] The arrow-heads were of flint or obsidian generally lozenge shaped, less often tanged, at Susa and at al 'Ubaid sometimes triangular but never hollow-based or barbed as in Egypt (Fig. 56). The normal mace-head was pear-shaped but a pointed type (Fig. 57) not unlike the First

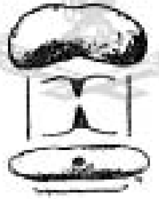


Fig. 57.—Pointed stone mace-head, Susa I.

Predynastic Egyptian occurs. More rarely still the piriform mace-head was embellished with four protuberances.

The pottery of Susa available for study is exclusively funerary ware as the excavators did not take the trouble to bring back one single sherd from the contemporary settlement. The sepulchral pottery[7] was marvellously thin, too thin in fact to be of much practical use and often porous owing to the low temperature at which it was fired. Yet the vessels are so regular that many authorities believe that the wheel or at least the tournette was used in their manufacture. The main shapes in order of frequence are lank tumblers, open bowls, squat carinated pots with shoulder-lugs (Fig. 58*a*), ovoid jars with everted rims, spouted jugs (Fig. 58*b*), and a small goblet on a stem. The commonest vessels are therefore of quite simple forms whose manufacture does not presuppose any long established ceramic tradition ; in the spouted vase, however, we have a form superior to

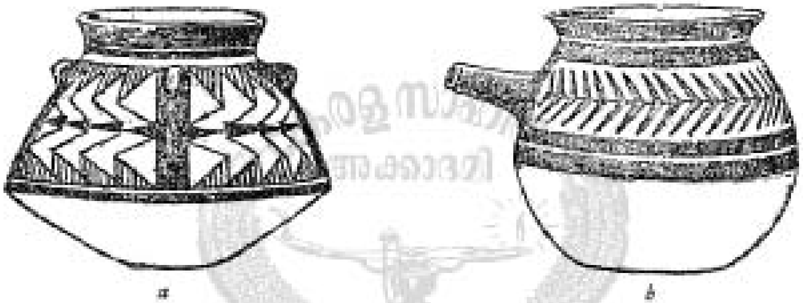
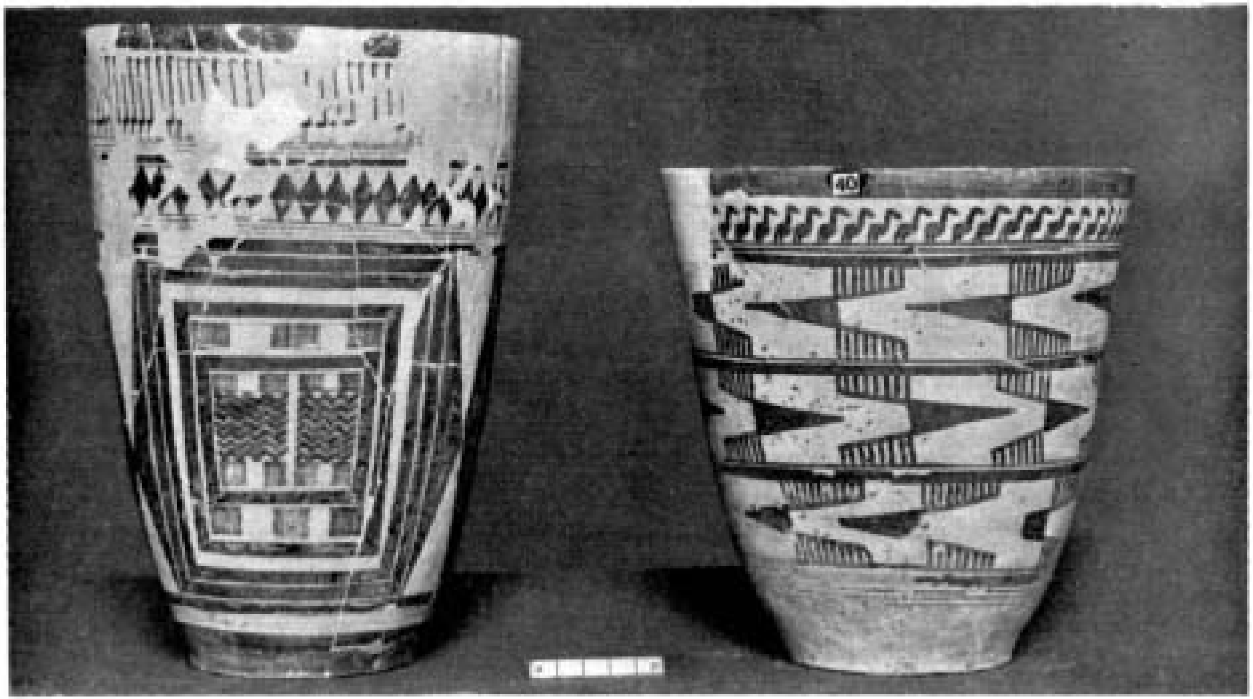


FIG. 58.—Carinated pot and spouted jug, ½, Susa I.

PLATE XIII



TUMBLERS FROM CEMETERY OF SUSA I

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anything produced in Egypt in predynastic times. Dr. Frankfort has shown that some of the shapes might be based upon leather models, but others are unmistakably inspired by basketry as is a good deal of the decoration.

The funerary vases are ornamented with designs executed in a dull black paint. The geometrical patterns, including chequers, Maltese crosses, swastikas, steps, are most effectively combined with figures of animals and plants all elaborated and stylized with a view to decorative effect. Aquatic birds, eagles with outspread wings, dogs, ibex, equids, wild goats, sheep, and even men or quivers are depicted, but all are so rendered that verisimilitude is completely subordinated to the whole decorative scheme. Dr. Frankfort calls this treatment

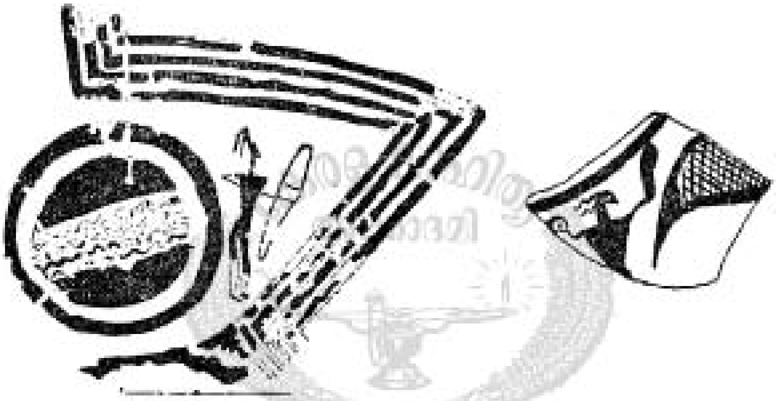


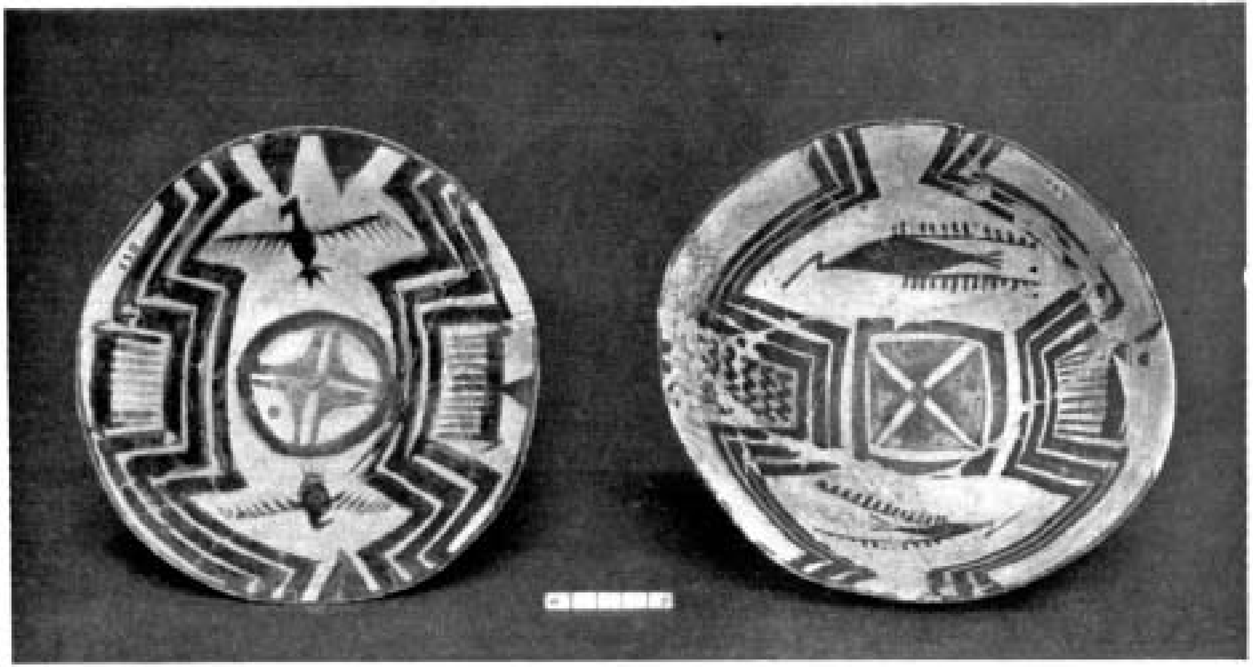
FIG. 59.—Sherds from Susa I, depicting human figures.

young and abstract, but Pottier [6] justly remarks that it would be possible to distinguish stages in the subordination of naturalism to decorative effect ; realistic representations do occur and perhaps belong to a time before the artist had learned to transform such into mere elements of a complex and gorgeous pattern.

There is, however, a class of more practical vases represented by four vessels from the necropolis of Susa I. These are made of a reddish clay but agree in form and decoration with the normal globular and keeled pots from the cemetery. This red fabric, thought by Dr. Frankfort [7] to be evidence of foreign influence at Susa, certainly has analogies with sherds found on more northerly sites of the First Culture as far away as Erivain and Mohammadabad and perhaps will in the last resort prove to be connected with a series of Indian wares.

The domestic pottery from al 'Ubaid differs substantially from the funerary ware of Susa. But in technique and ornamentation it agrees so strikingly with the sherds collected not only on Mesopotamian sites from Bushire to Samarra but also far to the east at Seistan that the uniformity of ceramic tradition from the Euphrates to the Helmund is unquestionable. The finest fabric has been fired at such a high temperature that the silicates in the clay have often partly fused, giving the sherds a greenish appearance. But no slip was applied nor is the use of the wheel attested. The fine ware in question was decorated as at Susa with patterns in a matt black paint. The designs, however, are almost exclusively

PLATE XIV



BOWLS (INTERIOR) FROM CEMETERY OF SUSA I

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geometric, though there are a few isolated representations of natural objects, always highly stylized, at most of the sites that have yielded this pottery at all. At the same time a certain number of the motives seem to be the final result of that process of stylization that had been at work at Susa and either recur there or at some mounds to the north-west near Musyan where we seem to have a later and more conventionalized edition of the Susian art.

The commonest shapes as known in Mesopotamia are open dishes, often carinated and provided with broad bevelled rims, bowls with ring-stands to give them stability, a sort of beaker from Samarra, and a vessel like a modern sauce-boat from al 'Ubaid (Plate XV), small keeled pots with a sloping shoulder from which rise four lugs and spouted jugs.

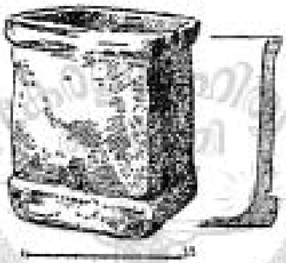


Fig. 60.—Square vase of alabaster, Susa I, after de Morgan.

In addition to the fine painted ware, al 'Ubaid has yielded other contemporary fabrics, some fired in a smoky furnace, others agreeing technically with the painted ware but decorated with a comb drawn over the surface of the moist clay to leave a ribbon of parallel furrows.

In these fabrics we meet new forms, in particular cups with true handles—apparently the earliest dated examples of such a device.

Besides clay, stone was employed for the manufacture of vessels both in Elam and Southern Babylonia and probably at other sites, particularly in Seistan. From Susa, apart from one square-mouthed vessel of alabaster (Fig. 60) said to come from the cemetery, the only type was a curious little trumpet-shaped receptacle for face-paints termed by the French a cornet (Fig 61). But at al 'Ubaid a hemispherical bowl of diorite with flattened base was dug up in a prediluvian grave, while many of the carinated dishes with their bevelled rims look to Dr. Hall like copies of stone vessels ; indeed the same profile is to be seen on some alabaster dishes from Susa belonging to the Second Period. Bitumen was also

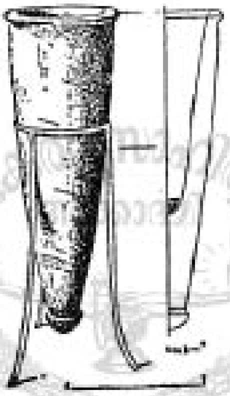


FIG. 61.—Stone receptacle for paint in the form of a cornet after de Morgan.

used for the manufacture of vases, particularly cornets, at Susa.

Strings of carnelian, rock-crystal, limestone, shell, lapis, and white paste beads, together with fish-vertebræ, were hung round the neck. At Susa the strings were sometimes double, and were kept apart by flat spacer-beads of vitreous paste. An important type found at the same site is a spirally fluted bead of white paste. Plugs in the shape of little cylinders with concave sides as at Badari were apparently worn in the lips at al 'Ubaid.

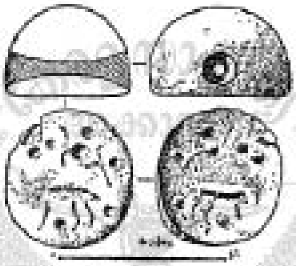


Fig. 62.—Bead seal, necropolis of Susa I.

From the same site come numerous little nails of obsidian or rock-crystal that were probably used as nose plugs ; a pair of rather similar objects made of grey limestone were found in a grave at Susa.[9] At the latter site rings of shell were worn on the fingers. The person was painted with various colours. To assist them in their toilet the ladies of Susa were provided with substantial copper mirrors.

Feathers were worn in the hair which was allowed to grow long (Fig. 59).

Finally, Susa yielded two almost hemispherical beads, with a perforation parallel to the flat face which is engraved with a rough animal figure (Fig. 62). These are the oldest known seals!

From the foregoing analysis it would seem that while the Mesopotamian sites belong to the same complex as the Elamite, they represent a later stage of that culture than that represented in Susa I. And that impression is confirmed by the fact that both at al 'Ubaid and on the Helmund there are points of contact with the group of remains that at Susa appear in the ruins of the second city that overlies the first. It seems that the First Prediluvian civilization reached the plains of Babylonia at a later stage of its evolution than that represented in Elam. The culture there revealed and evidently native to the highlands appears as the parent of the oldest civilization of the Tigris-Euphrates plains.

The existence, spread over the huge area between the Euphrates and the Indus, of a culture characterized by close agreements in a craft so domestic as that of the potter cannot be explained by any common-place formula. It implies such a synthesis of contraries—continuity and dispersion—as cannot be effected by the blessed word "trade". Under existing conditions where the habitable areas are separated by wide tracts of horrible desert its rise would be inconceivable. On the other hand, given restricted but easily interconnected habitable areas the colonization of vast regions by early agriculturalists is quite comprehensible. Any community taking to agriculture under favourable conditions or first finding such for its application would at once multiply rapidly. In the long run no doubt the population would adjust itself to the means of subsistence, but the immediate result of sedentary life in a congenial environment is a surplus that must overflow.

The alluvial basins and valleys between the Arabian and Indian deserts seem in fact to have encouraged the multiplication of communities by a slow process of budding off. And each new colony of farmers would in its turn become a centre whither artisans would congregate and whence new colonies must be sent out. At the same time nomads from the grasslands to the north and south would be likely to contribute fresh contingents to the young communities in prosperous centres.

The world of villagers which thus arose, often on sites that are now utter desert, evidently maintained continuous interconnection. And they may claim credit for inventions that have revolutionized human life, notably the discovery of metallurgy in the true sense.[10] The same people were apparently the first to devise that convenient method of identification—and at first of course also of consecration—by stamping on a soft material the image of the owner's animal patron or ancestor, a device that has been used universally in lieu of a signature till writing became a generally familiar art. Bitumen, obsidian, and lapis lazuli are products of the highland zone, and the traffic in these substances must have been at one time conducted by the people under discussion. In fact we find lapis lazuli in their settlements as far away as Baluchistan.

Dr. Frankfort[7] would go much further. He sees in Susa I the first settlement of a tribe of hunters, just taking to agriculture as incipient desiccation diminished the supplies of game. The exquisite but useless Susian vases would be the first efforts of potters forced to find, for funerary purposes, substitutes for the vessels made from skins that had been hitherto employed. M. Pottier[8] has indeed shown that the civilization of Susa I is not in this sense primitive but is on the contrary already mature. But his arguments do not necessarily mean that the culture in question was brought to the highland zone ready-made. On the contrary at the moment of crisis succeeding the full pluvial epoch conditions would have been propitious for the beginnings of agriculture and the domestication of animals. The appropriate plants and animals were certainly available and, though we have no traces of pre-neolithic man, no serious search has yet been made. And given a higher culture on the plateau, incipient desiccation would ensure its propagation to adjoining regions, east, north, and west.

Mr. Perry,[11] on the other hand, would like to reverse the process and derive the culture of Susa I from the Nile valley. Struck by certain similarities between the Second Predynastic and the First Prediluvian cultures he contends that colonists from Egypt had sought out the Iranian plateau and settled there to work copper and presumably lapis and obsidian.

An approximate synchronism between the Second Predynastic culture and the First Prediluvian is indeed quite likely. And some relation between the two is quite beyond dispute; common to both are the pear-shaped mace, spouted jugs, needles, flat celts of copper, dark-on-light ceramic decoration, as well as the use of obsidian and lapis. But some of these elements, for instance the spouted jugs and of course the obsidian and lapis, look like foreign intruders in Egypt, whereas they are at home in the domain of the Asiatic Prediluvian culture whose frontiers had extended at least into Syria. Accordingly a better case could be made out for treating Susa as the parent of the Egyptian Second Culture than for the contrary relationship postulated by Perry ; the only objects at Susa for which an Egyptian inspiration might plausibly be claimed are the paste beads, and they differ materially from any predynastic Egyptian specimens known to me. In other respects Susa seems to be ahead of Egypt.

None the less, the cultivation of cereals, the polishing of stone for axes, pressure-flaking in the manufacture of arrow-heads, the arts of the potter and the weaver, the use of stone beads and other more or less significant common traits do challenge us to find a point of contact between the oldest civilizations of Susa and Egypt anterior to the relations between mature cultures discernible in Middle Predynastic times in Egypt. In view of the apparent southern affinities of the Badarian civilization in Egypt such a point must lie to the south. The late Professor Ramsay would find it on the bottom of the Persian Gulf that would have been dry land during the ice-age and only flooded at the time of that general transgression of the sea which produced the 25 foot beach in Scotland. Such a hypothesis is not only a confession of ignorance but in effect a denial of the possibility of knowledge.

Very tempting are the speculations of Dr. Christian and Professor Menghin of Vienna.[12] The former claims to find linguistic and ethnographic evidence for a stratum of "pre-Malay" (? negrito, negroid) peoples, practising garden-culture and not unacquainted with navigation, both in India, Elam, and the Sudan. These would have been the inaugurators of agriculture in Hither Asia and Egypt. That at once calls to mind the affinities exhibited by the Badarian skeletons to the primitive races of India. Menghin reminds us of those broken fragments from a chain of cultures preserving Lower Palæolithic traditions, detected both in Somaliland and India. They were characterized by hand-axes that might easily be taken as the ancestors of the hoes of al 'Ubaid and Susa. And in the same belt in Kenya colony the oldest yet known pottery has come to light. One can well imagine that as climatic zones shifted northward with the melting of the European glaciers, the users of hand-axes too might travel towards the Lower Nile and the Iranian plateau. But such a southern Eden where the adherents of Lower Palæolithic traditions would have first planted grain and tamed beasts is at the moment hardly even a legitimate inference.

We are on rather more solid ground when we refer to survivals from the hypothetical culture of that southern steppe folk whose domain once embraced Egypt, Mesopotamia, and Western India. Such a survival might perhaps be seen in the feathered head-dress worn at Susa. In Mesopotamia it is more obvious in the zoned decoration of the beaker from Samarra. That is certainly sprung from the same family of grass baskets as the Badarian beakers and their later Spanish relatives. But the differences in this case suggest independent translation into established ceramic groups. The prediluvian culture before it first meets us has already become highly individualized and possesses a mentality expressed in its oldest artistic products quite different from that evinced in Africa.

CHAPTER VII

THE INVENTION OF WRITING AND THE HARNESSING OF ANIMAL MOTIVE POWER

By the time of the Second Prediluvian civilization we find that the dwellers in Mesopotamia and Elam have learned the lessons sternly taught by their environment. The overflowing highland folk who had colonized the marshes have now combined to put their dwellings beyond the reach of flood. They have built them sacred cities raised above the swamps on platforms of brick-work. They have submitted to the temporal guidance of rulers whose palaces crown the citadels. They have extended those trade relations essential to existence on an alluvial plain till they exchange goods with Anatolia and Egypt. For the conduct of their business they have devised a script and have applied the seal to the authentication of documents. They recognize, that means, in a rudimentary form at least, those legal prescriptions and financial conventions that gave rise in classical Babylonian practice to the contract and the bill-of-exchange. They have harnessed to their use the strength of bulls and asses. For its application they have invented the chariot and the wagon.

The Second Civilization thus marks an era in human history. Within its domain at Jemdet Nasr [1] we find the oldest written documents to which an approximate date can be assigned. The script in which they are drawn up, although its characters are still pictographic, is the direct ancestor of that which was used thenceforth for nearly three thousand years as the medium for commercial and diplomatic correspondence throughout the ancient east. It was, moreover, already used for accounts and business documents, not merely for the transcription of personal names or the commemoration of kingly triumphs. The account tablets are endorsed with seal-impressions implying something of the legal system so well known from documents of the third millennium and yet so surprisingly modern. At Kish [2] the Oxford-Field Expedition has recently unearthed tombs that contain as far as we can judge the oldest known wheeled vehicles. No earlier instance is known of the control by man of any source of energy beyond human labour-power unless it be the use of sails on Predynastic boats. A cognate invention was that of the potters' wheel. At the same time, as counterparts to the many indications of Babylonian influence in Egypt noted in a previous chapter, we now find in Mesopotamia and Elam mace-heads and ape-statuettes of Egyptian form and glaze-ware possibly imported from the Nile valley.

Unfortunately the culture of which so much may be predicated is still a very vague entity. On the one hand, it seems to grow out of the First Prediluvian culture ; yet it is distinguished therefrom by features, especially the pottery, that seem to belong to a distinct tradition, a new ethnic element. On the other hand, the Second civilization overlaps both with the First Prediluvian as represented at al 'Ubaid and with the proto-dynastic Sumerian civilization as represented in the oldest tombs at Ur. Only at Susa are the First and Second civilizations contrasted at the same site and separated stratigraphically in time. And even at Susa, thanks to the obscurities of the excavators' reports, the relation of the Second culture to its predecessor on the one hand, and to the earliest historical culture of Babylonia on the other is very far from clear.

We read in one place that over the ruins of Susa I[3] the excavators found a sterile stratum, suggesting to Dr. Frankfort a desertion of the site. But the sterile layer is most probably really the debris of the platform upon which the Second City proper was erected. Then in the "second prehistoric" level many characteristic traits of the Second civilization, such as polychrome painted pottery and alabaster vases are very poorly[4] represented, though its main outlines are already discernible. And it is above this layer that the sterile stratum intervenes. And in the superimposed "archaic" levels which first illustrate in its classical form the "Susa II culture" we are already confronted with monuments belonging to the ordinary protohistoric or pre-Sargonic Sumerian civilization.

None the less, "Susa II" may be regarded as an outpost of a great cultural province whose remains are also found further to the north-west in the cemeteries of Tepeh Khazineh and Tepeh Aly Abad near Musyan on the upper Kerkha[5] and then in Mesopotamia at Kish and Jemdet Nasr, 15 miles to the north-west. Ceramic remains similar to those from the sites just mentioned allow us to assign to the same province stations as remote as Rhagæ and Nihavend in Western Persia and Carchemish and perhaps even Sakje Geuzi in North Syria. In Southern Babylonia, Sumer proper, the Second Civilization is apparently lacking save for a couple of vases from al 'Ubaid and one or two more from Shuruppak (Fara). Nor is it characteristically represented on the Iranian plateau east of the Kerkha and even in Western Persia only in a belated variant.[6]

Besides the discordance in distribution, the Second culture is distinguished from the First by certain features which can hardly be regarded as the simple result of direct evolution in either of the regions where the First culture is well known—Elam and Sumer—but which in fact suggest a break with local traditions. These points of contrast can be better discussed when the main outlines of the culture[7] are known.

Jemdet Nasr was built on a platform of mud-brick that raised the city above the marsh, and Susa II also rested on a similar substructure. At the former site several private houses and a palace were unearthed. They were built of sun-dried bricks supplemented with true kiln-fired bricks. These were not plano-convex as at al 'Ubaid and in all pre-Sargonic Sumerian buildings but parallelopipeds 20 by 8·5 by 8 cm.[2] or 23 by 9 by 6·5 cm.[3] The palace itself was a monumental complex of rooms covering an area of 92 by 48 m.[2] and approached by a staircase. Fields in the vicinity supplied the citizens with cereals, and sheep and swine grazed thereon. And now ordinary bread wheat, *Triticum vulgare*, was being grown as a find from Jemdet Nasr shows. The fisherman, too, was still active and the first conclusive evidence of the use of the line is supplied by two copper fish-hooks from Jemdet Nasr (Fig. 65).

But obviously these cities were much more than communities of farmers. Only industry and commerce could nourish the large aggregations of people suggested by the size of the ruins and the monumental character of the buildings. The industrial division of labour is disclosed in the variety and excellence of commodities manufactured and trade by the importation of lapis, agate, alabaster, felspar, rock-crystal, building timber, and ores. At least at Jemdet Nasr and Kish commerce was facilitated by written records and accounts. The documents were inscribed on biscuit-shaped clay tablets, such as formed the regular vehicle for all contracts and correspondence in Babylonia throughout historical times. The characters, too, are the direct ancestors of those used by the oldest Sumerians; but they were still pictographs only slightly conventionalized though some signs seem already to have acquired a conventional phonetic value. The documents were authenticated by the impression of stamp or cylinder seals just as in historical times. In the lower levels of Susa II no such written documents have been recorded, and curiously enough the later Elamite hieroglyphic script seems quite different from that current at Jemdet Nasr. Yet the same types of stamp seal and later of cylinder were found at both sites.

Apparently the lowest levels of Susa II yielded exclusively stamp seals which can be paralleled at Jemdet Nasr. They include besides the hemispherical bead seal already appearing under the first culture, button seals, sometimes made of clay, and theriomorphic seals. The button seals bear instead of animal figures complicated geometric motives (Fig. 63).

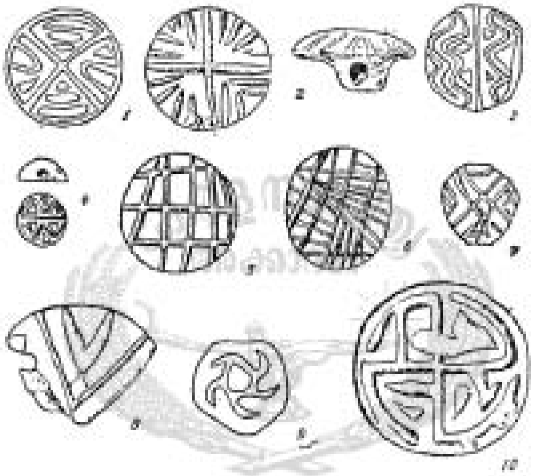


Fig. 63.—Button seals, Susa II, ½.

The seals in animal form (Fig. 64) that are extremely common at Susa often approximate closely to the shekel or some multiple thereof when weighed even in their present imperfect condition ; they may therefore have served as weights as well as for the authentication of documents. Hence the classical Babylonian system of weights and measures goes back in part at least to the Second Prediluvian age.

Stone implements were found at most sites. Even clay sickles were still current in Susa II and chert hoes at Jemdet Nasr, both implements in precisely the same form as at al 'Ubaid. But everywhere copper was regularly used for tools and weapons. Besides flat chisels and axe-heads Jemdet Nasr has yielded the oldest known copper fish-hooks (Fig. 65). The shaft-hole axe is represented there only by a clay model as at al 'Ubaid. But the tombs round Musyan and a late hoard found at Susa[8] have yielded a type with a tubular

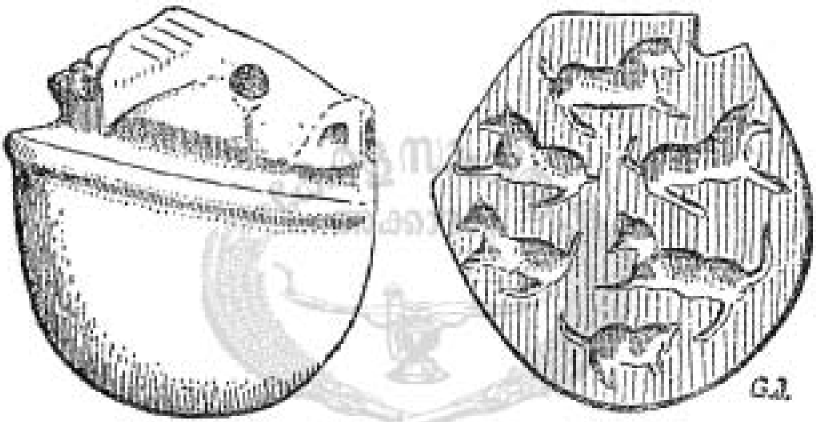


Fig. 64.—Theriomorphis seal or weight, Susa II, $\frac{1}{1}$.

shaft-socket for the shaft and a narrow sloping blade, Fig. 66, 10, while the hoe-like type with the blade at right angles to the shaft is illustrated in the Susa hoard of Sargonic age. In these cases the shaft-hole has been cast but there are specimens from the late Susa hoard of a much more primitive type in which the shaft-hole is formed by bending the butt of the implement back upon itself so as to form a loop. Presumably the butt was inserted at right angles into a split wooden shaft and the projecting end then folded over round the shaft. The adzes sometimes had rounded butts as in protodynastic Egypt (Fig. 66, 2).

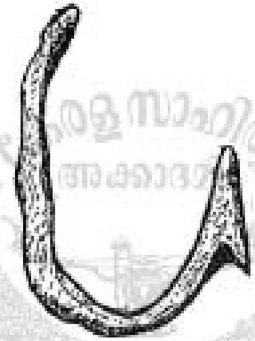


Fig. 65.—Copper fish-hook, Jemdet Nasr, ⅔.

As to the weapons the mace generally has a pear-shaped head but sometimes the head is disc-shaped[5] as in the First Predynastic culture of Egypt. The arrows had flint or copper heads and reed shafts into the ends of which were fitted little copper forks[6] since there was a danger of the reed splitting if a notch for the string were made in the base of the shaft (Fig. 66, 9). The spear-heads were not socketed but had poker-butts. The Susa hoard contained model daggers with elongated leaf-shaped blades; the hilt overlapped the blade projecting to form rudimentary guards from which the shoulders sloped back steeply to a flat grip with parallel sides.

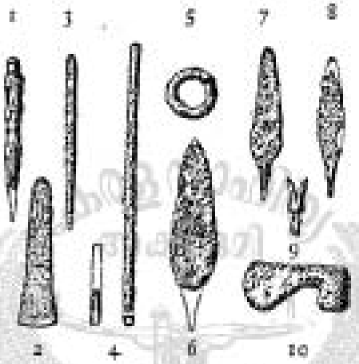
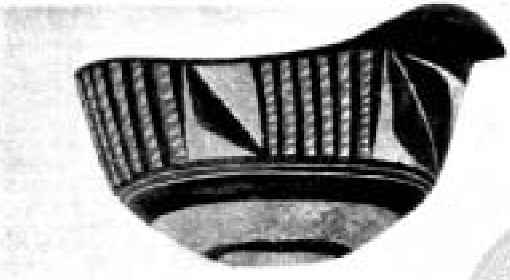


Fig. 66.—Copper pin, celt needle tubes, ring, spear head, arrow-heads, arrow butt and axe, cemeteries round Musyan, $\frac{1}{3}$.

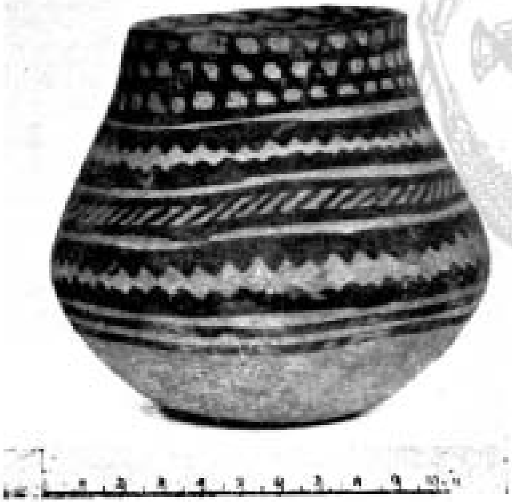
Copper was certainly in use for vessels and a number of these have been preserved in the Susa hoard, which, however, belongs to a later date than the other types here described, being in fact Sargonic in age. The types illustrated there include carinated bowls, the body being convex and the "neck" slightly concave and deep bowls with long open spouts projecting from the rim and even strainers perforated with fine holes.

But stone vessels were really more distinctive of the

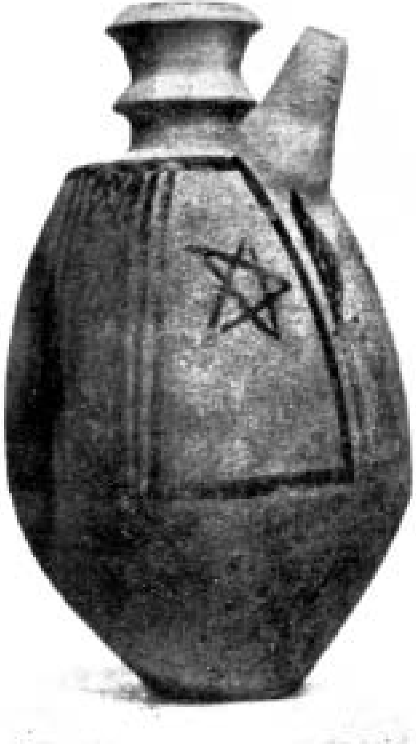
PLATE XV



a. SAUCE BOAT FROM AL'UBAID



b. BEAKER FROM SAMARRA



c. SPOUTED VASE FROM JEMDET-NASR ½

കേരളസാഹിത്യ അക്കാദമി

[face p. 155

culture. Porphyry, granite and above all alabaster[1] were employed in their manufacture. The alabaster is said to be a local stone. Yet some of the shapes, particularly dishes with a wide bevelled rim and slight keel and almost cylindrical jars with bevelled rims from the Susa hoard, recall Egyptian forms. Others, like the flattened hemispherical bowls and square-mouthed vessels, are reminiscent of the products of the First Prediluvian civilization. The most distinctive forms, however, are little twin vases (Fig. 67) and theriomorphs in alabaster. The twin vases recall the compartment bowls of protodynastic Egypt. The animal vases that are very abundant at Susa represent ducks, apes, toads, pigs, and unrecognizable animals (Fig. 68).

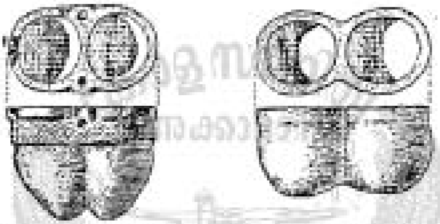


FIG. 67.—Twin vases of alabaster from Susa II, $\frac{1}{2}$.

The pottery of the period is superior to that of the previous epoch in that most vases are wheel-turned and the surface is frequently coated with a fine slip. Some of the vases are painted, but even in the coarser unpainted wares technical progress is attested by the forms. In particular in the very earliest (transitional) levels at Susa II[4] as also at Jemdet Nasr the cups and jugs were equipped with genuine handles that often rise above the rim of the vessel. These are the oldest specimens of handled vessels except at al 'Ubaid and remain isolated, since in later periods the handle was not in vogue. In all wares, however, maturity is shown by structural features. The distinction between the various members of the vessel is well marked ; a ring-foot is attached at the base where necessary to give the vessel stability ; the shoulder is generally angular and accentuated by a ridge, the necks are cylindrical, set squarely on the shoulder, and sometimes decorated with a plastic ring ; the rim is bevelled and everted. Spouts have been inherited from the previous epoch but are much more common.

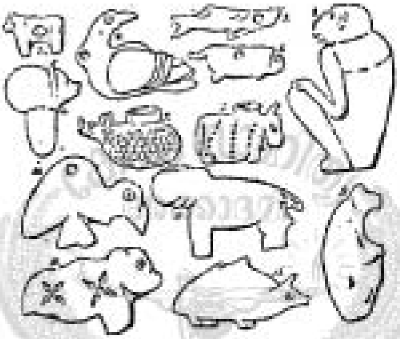


FIG. 68.—Theriomorphic vases of alabaster from Susa II, $\frac{1}{5}$.

Much of the domestic pottery is of course quite plain. Other coarse vessels were decorated with plastic mouldings quite often representing serpents or even human busts. Finally the best wares were painted. These, that serve above all to define the culture, nevertheless differ very materially in points of detail from site to site. Common to all regions is the use of red in addition to black paint, the more realistic treatment of such natural objects as are represented, a metopic arrangement of the designs and the general use of hatched triangles, chains of lozenges, and double-axe figures. A zoomorphic pattern, common to all groups is a deer with reverted

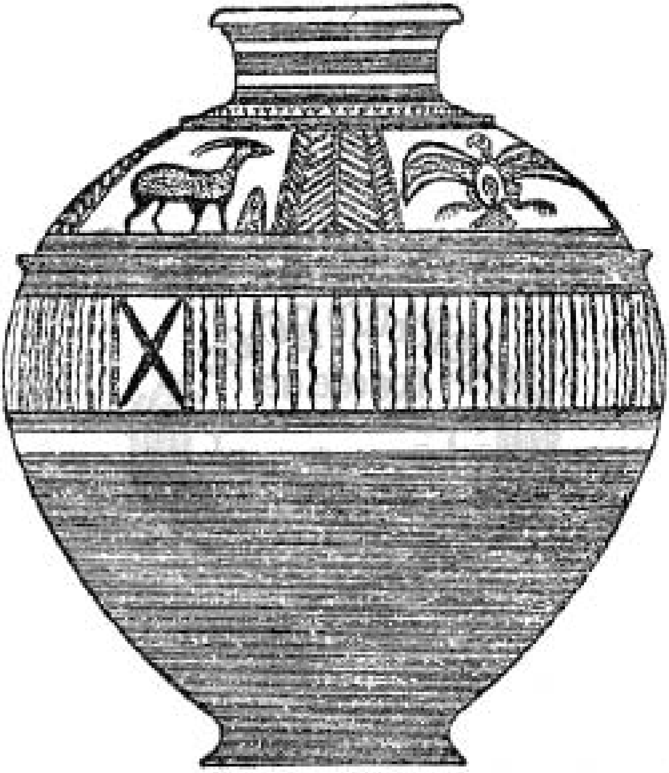


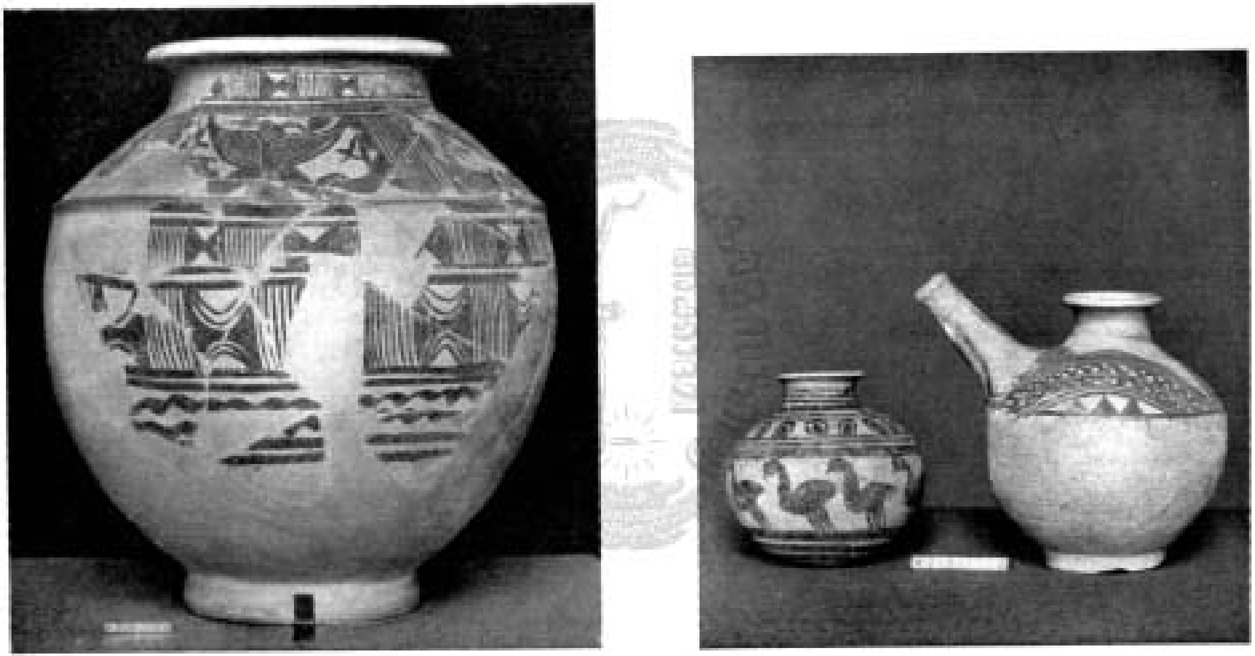
FIG. 69.—Store jar painted in red and black from Tepeh Aly Abad, $\frac{1}{4}$.

head, a motive that can be traced through later sculptures right into the Scythian art of Europe.

At Jemdet Nasr such naturalistic patterns are comparatively rare and rectilinear motives predominate. In many cases the whole surface is covered with a red wash and only a panel is reserved to receive the hatched black patterns. But the red surfaces are normally framed with black lines. Bowls and flasks with spouts, small biconical jars with steeply sloping shoulders on which stand lugs are the commonest shapes. The vessels are often polished.

In Elam the vase-surface is normally matt ; the red is often badly fixed and plays only a secondary rôle ; indeed in a large class of Susian vases, thought by Frankfort to be later than the rest, polychromy has been altogether abandoned. The zoomorphic themes include rows of fishes and beasts as on the oldest cylinder-seals, the bird with outstretched wings grasping his prey in his talons, the hero dompting lions and other themes that reappear in Babylonian art from archaic times onwards. The Musyan vases figure rayed semicircles suggesting the rising sun, and this motive recurs on archaic asphalt reliefs from Susa II. Geometrical curvilinear patterns are also found at the latter site, the guilloche for example and concentric semicircles. The forms include notably great store jars with bowl-shaped lids and some fancy shapes such as triple bowls in addition to the types already enumerated as common to the whole culture.

PLATE XVI



VASES FROM SUSA II

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The relation of this Second Prediluvian pottery and in particular of the Second Style at Susa to that of the previous period has been the subject of much debate. Several of the forms belonging to the First certainly survive into the Second—for instance the spouted jar, the ovoid vase and the carinated pot with shoulder lugs. Moreover, many zoomorphic subjects are common to both groups. Continuity cannot, however, be admitted in view of the very different treatment of the themes in the two groups.

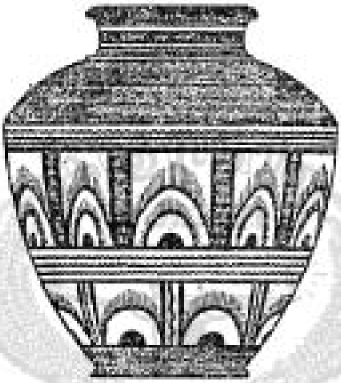


FIG. 70.—Store jar painted in red and black from Tepeh Aly Abad, near Musyan, $\frac{1}{8}$.

Besides pottery, stone, bitumen, and metal vessels there are a few examples of glaze-ware. One jar in this material was included in the Susa hoard already mentioned, while a vase in the shape of a pig from Jemdet Nasr is said to be in the same material.

The chariots miraculously preserved in the waterlogged soil of Kish[3] give us a quite unexpected glimpse into the art of the carpenter. The vehicles were provided with one or two pairs of wooden wheels. These are described as solid and were fastened to the copper-cased felloes by large copper nails. The wheels apparently turned with the axle. The draft animals were oxen or asses which pulled in pairs harnessed on either side of a pole on which was mounted an ornamental ring for holding the reins. Probably the two-wheeled cars would look exactly like that illustrated in Plate XVIII*a*, while models of four-wheeled wagons from Kish illustrate an alternative type.

The dress of the Second Prediluvian people, owing to the absence of competent representations of the human figure, is still unknown. But toggle-pins with an eyelet in the shaft[1, 4] already were worn, and other pins were provided with a globular bead of lapis lazuli to serve as a head.[5] The former type must have been used to fasten a sort of cloak. As implements of the weavers may be interpreted clay discs, perforated at the centre and sometimes painted, which are generally termed spindle-whorls. Those current at Susa II agree in form exactly with the stone mace-heads of predynastic Egypt and the painted limestine implements of the same form that still appear in protodynastic deposits there.

Simple burial in the earth of contracted skeletons as in the previous epoch was practised also in the Second Prediluvian period as the newly discovered cemetery of Susa II under the Apadana seems to show.[6] But more elaborate and almost monumental tombs were by this time in use. Examples have long been known from the vicinity of Musyan[5]; the sepulchres at Kish excavated in 1928 were just enclosed by low

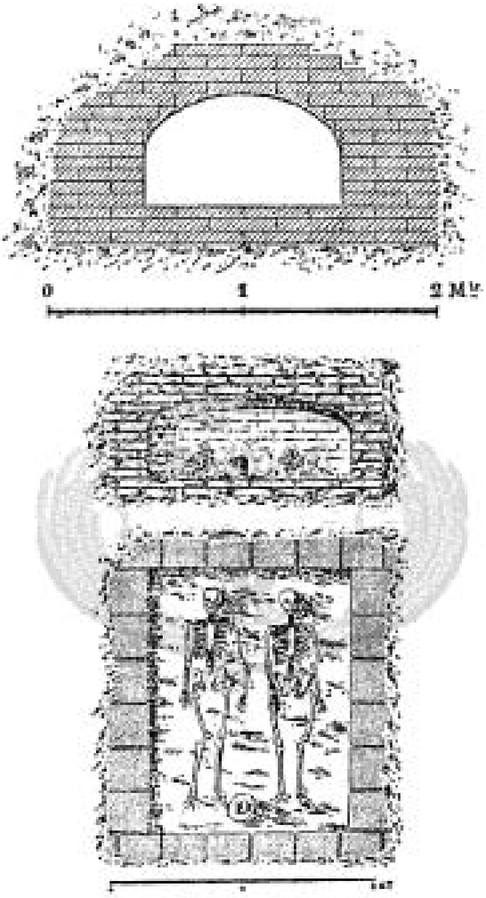


Fig. 71.—Brick tombs from the necropolis of Tepeh Aly Abad near Musyan.

brick walls but not roofed over. The tomb was now a small subterranean house of brick-work resting in some cases on a stone foundation. The plan of the chamber was rectangular and its area at Tepeh Aly Abad seldom exceeded 2 by 1·50 m.^{2} though one tomb even at that rural site measured as much as 5 by 1 m.^{2} The roofs were often barrel-shaped or ogival vaults formed by the junction of overlapping courses of bricks each projecting inwards a little further than the one below on the principle of corbelling (Fig. 71).

At Musyan some corpses are described as partially consumed by fires, kindled apparently in the tomb, while in other cases the bodies were interred in the extended position. Two or more skeletons were occasionally found together. At Kish attendants and charioteers had been slain to accompany their masters to the future life as had the oxen or asses that drew his car. This savage practice had been abandoned without leaving a trace by the time when Sumerian literature commences. Yet it is only the natural and logical corrolary of those eschatological ideas that prompted the deposition in the tomb of the deceased's weapons and ornaments and the provision of food and drink offerings. The revival of the extremely ancient practice of human sacrifice in the first tombs that make the least pretension to be subterranean reproductions of the house of the living is significant. Here in Babylonia effect was given to the full implications of the philosophy embodied in such a tomb without any mitigation of its brutality. The tombs thus distinguished have therefore a good claim to be placed at the head of all the series of chamber-tombs that archæologists have distinguished and tried to correlate.

Other evidence of the religious ideas of the Second Predynastic civilization are perhaps to be found in the figurines of a female personage that were modelled in clay or formed by pressing the liquid clay into a negative mould. The figures no doubt represent the old Babylonian Mother Goddess since identical models are found as votives in the temples of the deities who in every city represented the local revelation of the primordial divinity. The date of the specimens from Susa is, however, uncertain. That site has none the less yielded miniature alabaster statuettes of a female figure safely assignable to the earlier phases of the Second City. From the same levels come very remarkable alabaster and lapis statuettes of apes that resemble the Late Predynastic Egyptian representations in every respect.

Prediluvian art of the second phase is illustrated by the above-mentioned statuettes from Susa as well as by the archaic glyptic and the theriomorphic vessels and the paintings on the clay vases. All these monuments illustrate diverse aspects of what is an essentially homogeneous group. While the principles of decorative composition and a few individual themes have been inherited from the previous epoch,[10] the art of the second period is essentially naturalistic. The aim of the vase-painter in depicting animals was verisimilitude ; in the previous epoch he had used animals merely as an element in the decorative scheme.

Primarily on this contrast between the first and second styles of Susa as representatives of two great cultural groups, Dr. Frankfort has built up an ingenious theory of the ethnic diversity of their authors. The Second Prediluvian culture would belong to a race, specialized in North Syria who would have brought to Northern Babylonia and Elam this naturalistic tradition in art together with the use of polychromy, cylinder-seals, theriomorphic vases, and twin-pots of stone. Similar naturalistic pottery appears, though admittedly at a later date, in Palestine from a northern source, and the theriomorphs and cylinders and compartment-vases might conveniently have reached Egypt in predynastic times from the same North Syrian focus from which they were brought to Elam. This race from the north-west that brought the Second Prediluvian culture to Northern Babylonia to the exclusion of Sumer proper, would be Semitic, the Akkadian element in Babylonian civilization.[7]

Other authorities,[11] however, deny altogether a break of the kind here assumed between the First and Second Prediluvian cultures. The Second would be the natural outgrowth of the First. And both might be designated Sumerian since the tablets from Jemdet Nasr are apparently Sumerian and have analogies in Sumer.[12] But a partial solution of continuity between the First and Second cultures, at Susa at least, seems undeniable. Nor is it yet certain that the language of the Jemdet Nasr tablets is truly Sumerian ; the script there used is no doubt the immediate ancestor of the oldest Sumerian writing, but that is all. And curiously enough the tablets are endorsed with seals bearing human figures and lions while no such seals were actually found at the site. At the same time the Second culture at Susa seems quite definitely continuous with the proto-Elamite which, if not certainly Elamite, was neither Sumerian nor Semitic. The possibility must therefore be borne in mind that the Second Prediluvian culture belonged to a third element, perhaps Subaræan.

From a cultural standpoint at any rate the Second Prediluvian culture is really rooted in the First as specialized in Babylonia. From thence it derived the basic principles of all its arts and even such concrete devices as the shaft-hole axe, the spouted jar, the stamp-seal ; the men of the First culture must have opened up the ways of communication that supplied their successors with obsidian, lapis, metal. At the same time the genesis of the Second culture involved a direct or indirect interchange of ideas with other civilized peoples. Relations with Egypt are implied by the theriomorphic vases and compartment bowls and need by no means have been exclusively one-sided ; indeed, Egypt has as good a claim as any country to be the cradle of the theriomorph, and the disc-shaped mace from Jemdet Nasr is certainly an Egyptian type. The glaze ware from Susa, the ape-statuettes and even the alabaster from which they and many vases are made may all have come from the same quarter.

The plastic decoration and the high-handles on the other hand that appear only to vanish again in the lowest levels of Susa II and at Jemdet Nasr are at home in a different region, namely Anatolia and its maritime extensions. The appearance at a later date in Troy and even in Europe of clay stamps reproducing the forms of the button seal and motives peculiar to the oldest of such seals in Elam or Babylonia implies relations going back to the Second Prediluvian period.

This dual set of contacts therefore confirms Frankfort's views in so far as the specialization of the Second Civilization out of the First must have taken place in Northern Mesopotamia rather than in Sumer and in the valley of the Euphrates rather than on the highlands of Persia or in Elam. That does not oblige us to postulate a purely hypothetical centre of higher civilization far away in North Syria where only belated monuments attest man's emancipation from barbarism.

But the change in the art so clearly mirrored in the Susian vases may in truth be due to the infusion of a new ethnic element. The new realism may be inspired by a fresh draft upon that reservoir of hunters who still inhabited the grasslands and whose distant kinsmen were responsible for the naturalistic paintings and engravings of North Africa and South-East Spain. And such hunters might indeed have spoken a Semitic tongue.

The solution of the racial problem and even a just appreciation of the degree of cultural originality to be assigned to the Second Prediluvian Babylonians are seriously complicated by the uncertainty reigning as to the chronological relations of the earliest levels at Susa II and Kish to the oldest group of remains just brought to light in Sumer. But even if it be thought necessary to invoke the infusion of such a new ethnic element to explain the polychrome pottery, theriomorphic vases and seals, compartment pots and other innovations, there is no reason to ascribe to the intruders the sole credit for the great inventions of the Second Prediluvian age. The same pictographic writing as was current at Jemdet Nasr was in use in Southern Mesopotamia as tablets from Umma and Ur show, though the cities of its scribes have not yet been reached by excavations. The earliest cemetery at Ur, including the royal tombs which by their furniture and ritual recall those of Kish, can in point of fact be little if at all later than the latter. And they, too, contain chariots as we shall see. Writing, wheeled vehicles, the greatest inventions just described, seem all purely Mesopotamian. They may still be due to the Sumerians even if it should be proved that the men who employed them at Kish were Semites or Subaræans or proto-Elamites or at least mingled with such outsiders.

One point at any rate may be asserted: Oriental civilization was now, like European civilization to-day, an organic unity. Egyptians and Babylonians were no longer isolated communities who at best bartered their manufactures for the gleanings of barbarous Bedouins or sent out occasional expeditions to win copper in Sinai or the Taurus. The products of Babylonian industry were being marketed on the Nile ; the fabrics of Egypt were in use in Elam. Caravans were travelling across the deserts and up and down the Euphrates ; ships were sailing between Syria and the Delta. It matters not whether a citizen of Memphis ever beheld one of our nameless Babylonians, whether commodities passed through the hands of one or ten alien intermediaries, with commodities ideas passed from one civilization to another, the human response to the conditions of the one land, crystalized as concepts and inventions, were proffered to the inhabitants of the other to adapt or reject. The progress of Egypt in Late Predynastic and of Babylonia in Second Prediluvian times is partly at least the result of this fruitful intercourse. The burst of splendour that heralds the dawn of the historic period is no less due to the opening up of new channels of intercourse along the Red Sea and as we shall see to the entry into the system of yet another centre of higher civilization, India.

CHAPTER VIII

SUMERIAN CIVILIZATION AT THE END OF THE IVTH MILLENNIUM

JEMDET NASR perished in a conflagration and was never rebuilt. But above the ruins of the First Prediluvian culture at al 'Ubaid and of the Second at Kish, and separated therefrom in each case by an artificial platform, stand the monumental buildings of the first Sumerian dynasts. And at Ur graves belonging to the age of the First Dynasty have been laid high up in the shafts leading to yet older tombs. The latter must take us back to the middle of the IVth millennium and may well overlap with the Second Prediluvian graves of Kish, but, like the protodynastic remains from Kish and al 'Ubaid, these tombs are revealed as Sumerian by the same evidence from inscriptions and dress. And the writing is already in advance of the pictographic script of the Jemdet Nasr texts.

The progress achieved by protohistoric civilization over the prediluvian is expressed not so much in revolutionary industrial inventions as in the stabilization of institutions, increased amenities of life and a widened horizon opened up by the extension and regularization of foreign trade. The huge cities with their monumental temples and sumptuous palaces must result from the synoicism of smaller towns. The complicated urban life is controlled by a regular heirarchy of princes, priests, and officials, and its security is preserved by a well-drilled and well-equipped army. The temples and palaces are adorned with life-size models in the round and tasteful friezes and inlays. The music of harps soothes the heart of princes, the antics of bears and other exotic beasts distract their leisure hours, and a game like back-gammon played on richly inlaid boards provides diversion. Commerce brings cornelian beads, seals, stone for vases and doubtless cotton and apes from the Indus, tin, lapis, and obsidian from the Iranian plateau and Armenia, cedar wood from Syria and glaze wares and even the sistrum from Egypt. If the commerce with India is abundantly attested by the discovery at Kish, Ur, Umma, and Lagash of peculiarly Indian seals, intercourse with Egypt and the exchange of ideas as well as goods is no less dramatically demonstrated by an archaic shell plaque depicting a jackal brandishing a sistrum. And dancing to its tune is a bear—surely a native of Armenia or Syria ! (Plate I).

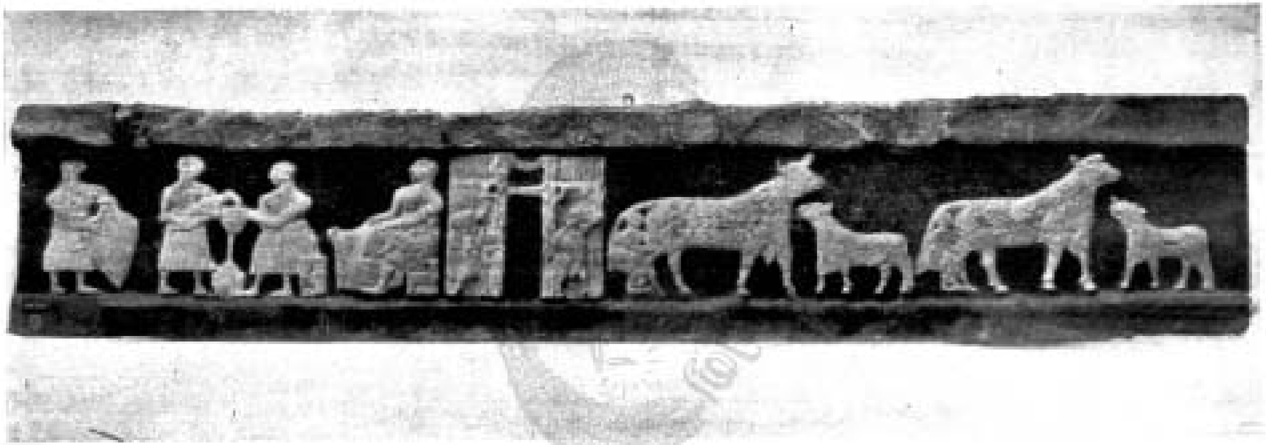
In such a milieu inventions and discoveries might reasonably be expected. The Sumerians had discovered tin and sometimes at least used an alloy of tin and copper ; they also possessed metallic iron or at least made large implements from meteoric iron, not just beads like the predynastic Egyptians. But epoch-making though these innovations doubtless were, it is the fine articles turned out by the goldsmith and the engraver that give a true idea of the high technical skill of the early Sumerians and the elaborated specialization of crafts that it implies.

The Sumerians are known to us from their skeletons,[1] the oldest human remains yet rescued from the salt-impregnated soil of Mesopotamia, and from a long series of competently executed statues and engravings. The skeletons[1] reveal a dolichocephalic population, of moderate stature and light build approximating closely to the modern Arabs of the region. The early Sumerian-speaking inhabitants of al 'Ubaid would accordingly belong in a general way to the "Mediterranean race" like the predynastic Egyptians, but the skulls are less prognathous and more capacious than those from Upper Egypt. This type was alone represented in the First Dynasty cemetery of al 'Ubaid and predominated in the more or less contemporary graves of Kish. But at the latter site in Akkad one skull was brachycephalic of Armenoid type.

The impression produced by the archaic statues[2] is rather different. The head seems round rather than long, the neck thick and massive, the body solidly built and almost fat. Perhaps this impression is due to the incompetence of the early sculptors. On the other hand it may be that the Sumerians, who are indubitably represented in the statues, were in fact a small ruling caste; the people buried in the graves, though they spoke Sumerian or at least scratched Sumerian legends on their vases, may have belonged to an older conquered stratum, perhaps Semitic as Buxton suggested. That, however, hardly seems likely since the Armenoid type is found at Kish in what was historically the Semitic part of Babylonia while in Sumer proper the population, as far as the existing material goes, was uniformly long-headed. Christian[2] claims to be able to recognize several racial types among the statues, but the value of this evidence is open to question.

The dress of the Sumerians is again quite distinctive, though small variations in the manner of wearing the hair have been seized on as proofs of racial diversity. Actually, however, the differences in fashion seem to depend upon the rank of the person portrayed and the age of the monument. As an infallible mark of the Sumerian can only be admitted the tasseled skirt worn round the loins. The tassels may appear in several rows forming regular flounces, but it is doubtful whether the garment represented, usually termed a *kaunakes*, was of wool, ornamented with hanging loops, or a palm-leaf skirt such as is worn in India and the Pacific to-day. The bust was left naked in the performance of those religious ceremonies that form the subject of most representations, but normally was covered by some loose garment worn like a plaid and fastened at the throat with a toggle pin. Priests, the class most often portrayed, shaved the head, but the laity frequently wore the hair long and done up in a bun at the back of the head, or falling over the ears. In some cases it is supposed that wigs were worn, a practice attested from Early Pre-

PLATE XVII



MILKING SCENE FROM WALLS OF A-ANNI-PADDA'S TEMPLE AT AL'UBAID

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dynastic times in Egypt. Some early Sumerians wore a chin beard and others whiskers too, but the moustache was generally shaved, and many were clean-shaven. All these fashions are illustrated on the mosaic depicting a banquet recently discovered at Ur.

The person was painted as in Egypt;[4] malachite was used for the purpose, together with red iron oxide, kohl (antimony sulphide), and a blue paint of undetermined composition.

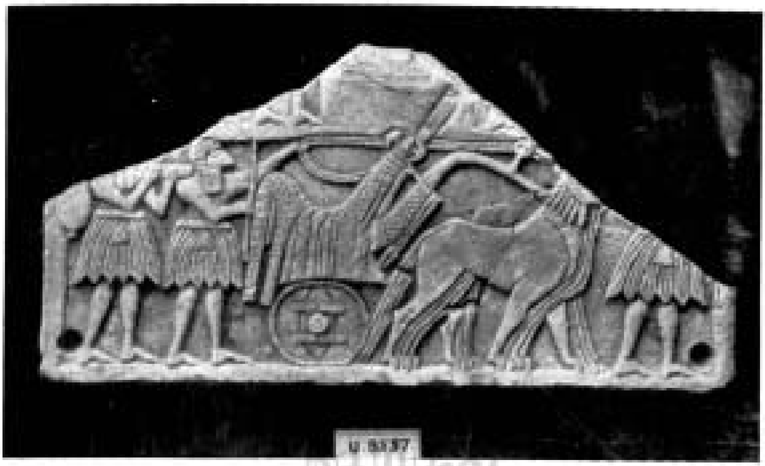
These Sumerians dwelt in real cities, but the townsmen loved the simple occupations of the husbandman and farmer, which were invested with a sacred value and fondly depicted upon the walls of temples and palaces. The scenes show that cows [5] and goats [8] were milked from the rear, the male milkers apparently blowing up the vulva of the animal, a practice paralleled among other primitives to-day (Plate XVII). Sheep with perverted horns directed to the nape of the neck as in the typical mouflon, asses derived from the wild species of the vicinity and, it would seem, even long-horned antelopes,[9] besides oxen and goats were tamed. The antelope may even have been harnessed to the plough, judging from an archaic engraving found at Nippur. Besides wheat and barley, pomegranites were cultivated in the gardens. Gold models of the fruit and of ears of grain were among the precious jewels of royalties. Certainly dates were cultivated.

But naturally industry and trade were highly specialized. The wheel-made pots are regular factory products. The incomparable skill of the metallurgists, carpenters, jewellers, gem-cutters, engravers, and sculptors bespeaks a high degree of specialization in labour and regular schools of trained craftsmen. All this, together with the foreign trade it entailed and the legal and governmental system that presided over all, required written documents, and so we find that by the time of the First Dynasty of Ur and even in the allegedly older graves the old pictographs had been simplified into those unrecognizable forms that characterize the pre-Sargonic script. Most people carried seals which, if they did not bear the owner's name, at least were engraved with a peculiar device the reproduction of which upon a tablet would be the equivalent of a signature.

For inland trade wheeled vehicles were doubtless used. We have indeed chariots[7] of this date which are much like those from Kish already described. The wheels were made of solid pieces of wood, leather-tired and turning in one piece with the axle. There were also light vehicles on runners, resembling a sledge, that would travel easily over the alluvial mud and the loose sands in dry weather.

But the Sumerians, if they were not actually mariners themselves, must have conducted some of their trade, notably with the Indus, by sea. And the Sumerian love for shell-work implies maritime connections. None the less we have no indications of sea-going ships at this date; the only boats preserved are river-barques as used in the marshes to-day, whose structure is excellently illustrated by the silver model from a royal tomb at Ur (Plate XVIII*b*, cf. Plate XX*b*).

PLATE XVIII



a. BAS-RELIEF SHOWING CHARIOT, UR

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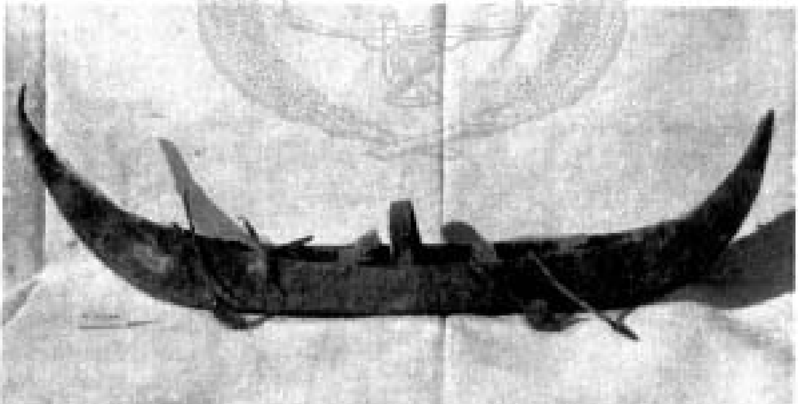


b. SILVER BOAT FROM ROYAL TOMB, UR

The industrial products of this highly complex system can only be briefly sketched.

Brick was the principal material of the Sumerian architect, and the type now in general use was the plano-convex form characteristic of the pre-Sargonic period in general. A permanent feature of all Mesopotamian architecture, now first attested, was the recessed brick-work of façades : the monotony of the front was relieved by broad piers or buttresses, projecting one or two courses beyond the main face of the wall, or by recesses retreating correspondingly. We have already seen that this system of panelling might be inspired by the alternation between the reed mats and the projecting palm-tree uprights that constituted the walls of the prediluvian huts. Another survival of architecture in timber that, however, was entirely discarded after the protohistoric period was the use of pillars. The archaic palace at Kish boasted a regular portico of four brick columns.

Stone, too, was used to some extent. The retaining walls of the platform at al 'Ubaid rested on two courses of quarry-dressed limestone blocks that must have been transported for a distance of forty miles. One of the royal tombs of Ur was built entirely of rough blocks of the same valuable material, forming a corbelled vault. And the walls of Eridu, that may, however, date from a later period, were likewise of limestone ; in this case the material was available in the immediate vicinity. Subsequently stone was used in architecture almost exclusively for door-sockets. The most momentous discovery of the proto-Sumerian period was, however, the arch. One of the royal tombs at Ur was roofed with a vault constructed of a series of brick arches though the apse at the end was surmounted by corbelled work.

Of woodwork nothing more than the casts in the ground of the chariots and other constructions have survived. The banqueting scene recently discovered at Ur discloses some articles of furniture, notably folding stools and thrones or couches with bulls' legs as in protodynastic Egypt. Some clay models of rather later date unearthed at Assur seem to represent two storeyed houses in whose construction timber must have been freely used.

The implements of the protohistorical period were almost entirely of metal which had practically ousted stone in the urban centres. The chisels were long and flat, often with a pointed triangular butt. As a new tool appears the bronze saw. It was equipped with a tang for the handle, and the serrated blade curved away slightly from the base. By this date too the "jaw-bone" sickle had been translated into metal, and the type with a looped tang for handle is to be regarded as Sumerian.

The Sumerian army as illustrated on an inlay recently discovered at Ur included both charioteers and infantry. The chariots were manned by a warrior and a driver. The charioteers were armed with spears of two types, one designed for throwing, the other for in-fighting. These weapons were carried in a special receptacle, apparently of basketry, in the front of the chariot. The footmen were divided into skirmishers armed with arrows and heavy pikemen who fought in the phalanx, anticipating the Macedonians by three thousand years. These were protected by copper helmets and wore in addition to the *kaunakes* a cloak of some spotted material hung over both shoulders and fastened at the throat.

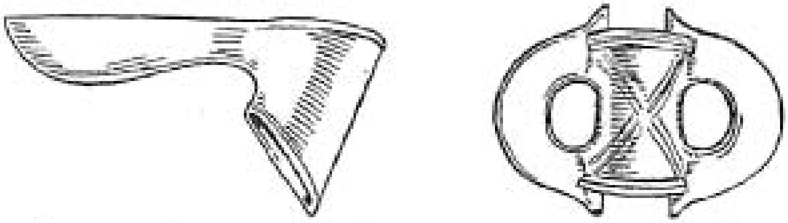


FIG. 72.—Sumerian single-bladed and double axes, Ur, ½.

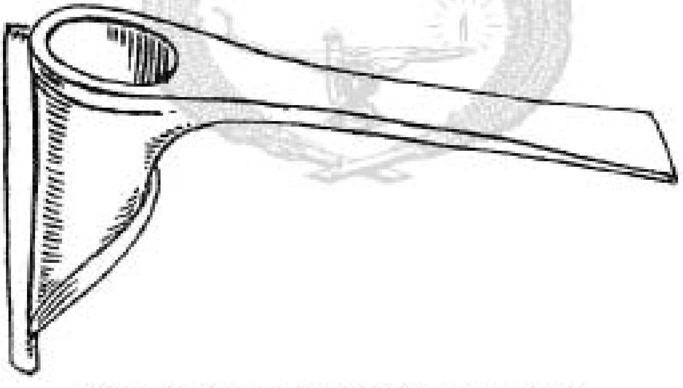


FIG. 73.—Sumerian transverse axe, Ur, ½.

The weapons include the battle-axe, the spear, the bow and arrows, the mace with pear-shaped head of stone, and a curious smashing weapon resembling a boomerang-club armed with a copper blade. The axe-heads (Figs. 72–4) were of course provided with a shaft-hole and include both the sloping and the transverse type already

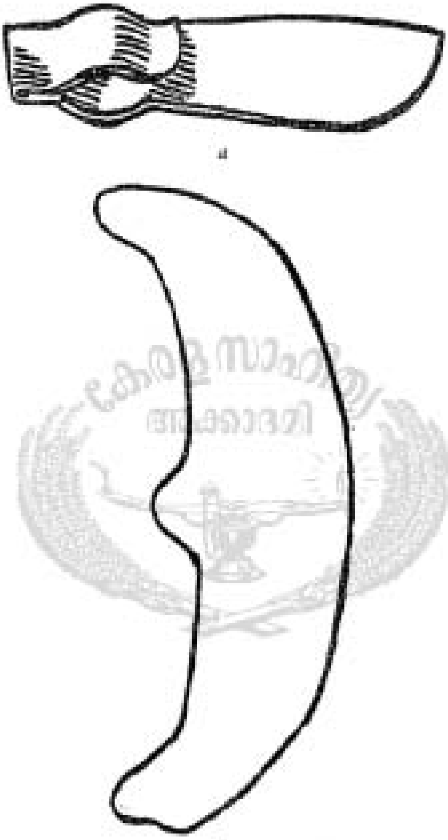
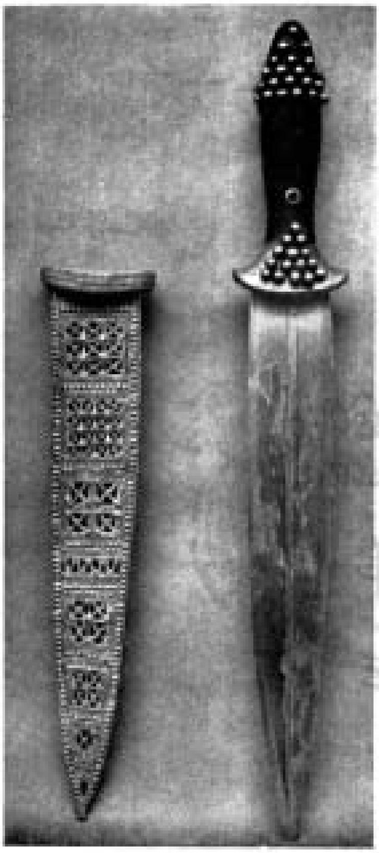


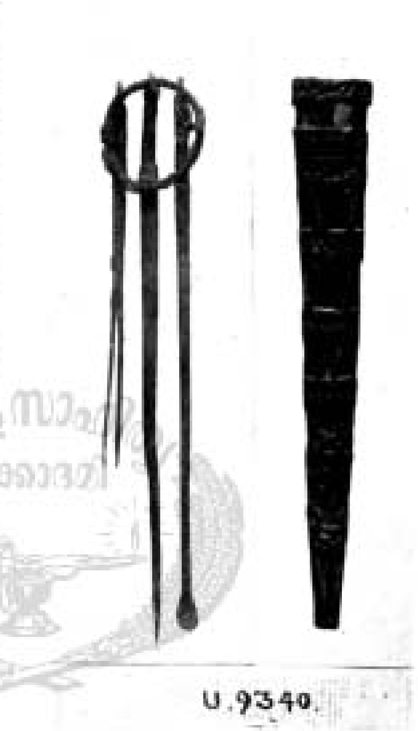
Fig. 74.—Sumerian axes, Kish A, ½.

described. It is, however, curious that the shaft-hole was still formed in some cases by folding the butt over into a loop (Fig. 74*a*) and specimens of this primitive

PLATE XIX



a. GOLDEN DAGGER WITH LAPIS HANDLE AND ITS SHEATH, UR ½



b. GOLD TOILET SET AND CASE, UR

variety were found side by side with highly finished examples provided with a cast tube for the shaft. A third type of axe that now appears for the first time has two blades; it is in fact the oldest double-axe. Fourthly, segmental blades with a scalloped back mounted in curved wooden shafts, derived from the boomerang-club, formed a sort of weapon intermediate between the axe and the sword (Fig. 74*b*). They constitute the prototypes from which the *harpê* was subsequently evolved.

The spear was no less typical than the axe in Sumerian armament. The majority of the actual specimens have lanceolate or poker-shaped blades and rectangular tapering butts (whence the name poker-butted spear-head) (Fig. 75). The butt fitted into a reed shaft which was frequently strengthened with a metal ferrule or casing. Some of the throwing spears were hurled with the aid of a sling. They are accordingly provided with little forks of metal to serve as notches. Cones of sheet copper perforated with rivet-holes may represent the butt-pieces (*saurôtêrs*) of the pikes.

The daggers (Fig. 73) have flat ogival or long triangular blades strengthened with a midrib and extended by a tang projecting from the base. The shoulders are square or steeply sloping. The hilt of wood or lapis lazuli was riveted to the tang by one, two, or three rivets; the junction of hilt and blade was sometimes covered with a carefully shaped ferrule. This often overlapped the blade, but never curved round it as in early

Egyptian specimens, so that the meeting-point of blade and hilt formed a straight or even line convex, never a

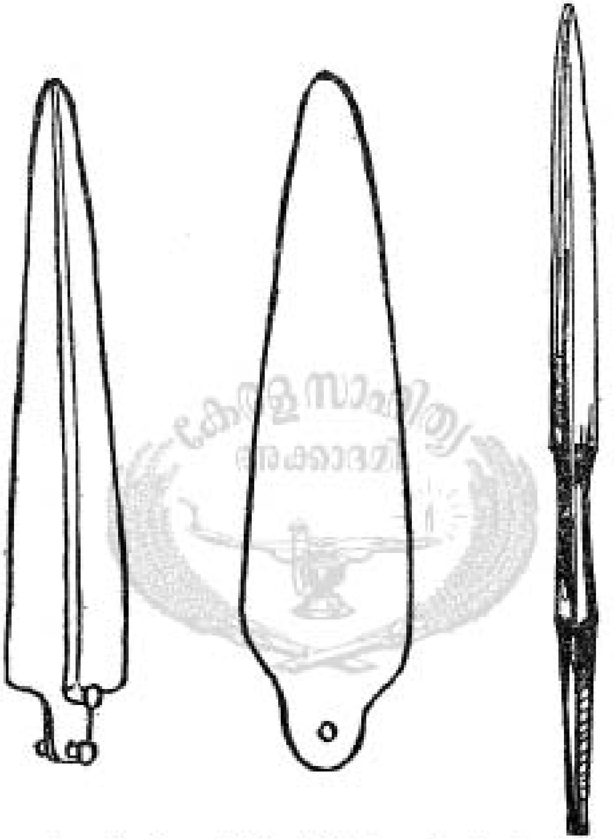
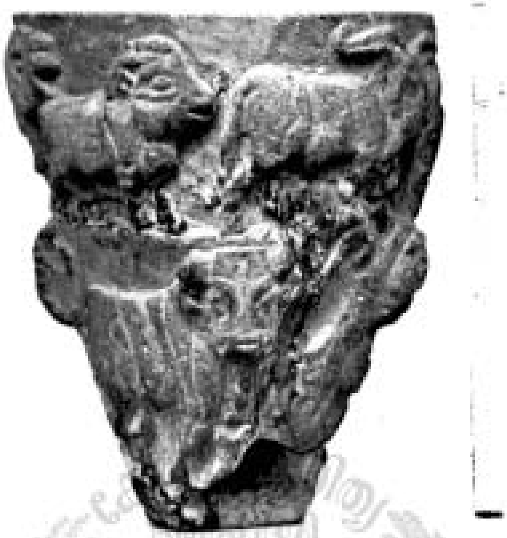


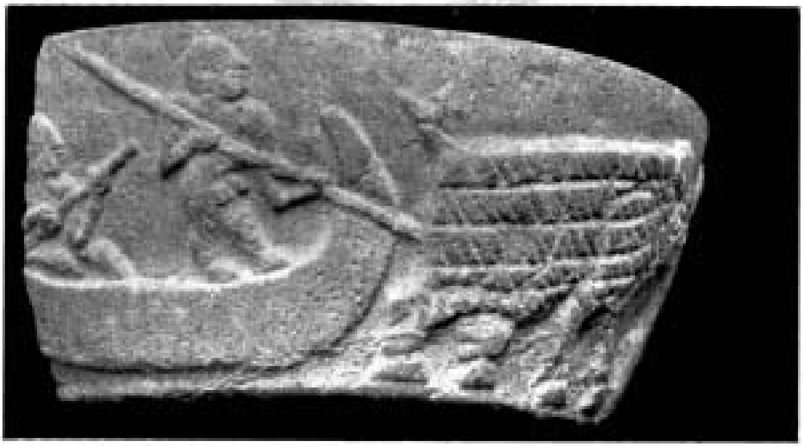
Fig. 75.—Sumerian dagger blades, Kish A, and poker-butted spear-head, Ur, ¼.

semicircular indentation (Plate XIX*a*). For sharpening the dagger warriors carried whetstones suspended from the belt by a ring passing through a perforation at one end.

PLATE XX



STONE VASE CARVED WITH PROCESSION OF ANIMALS, ERECH



CIRCULAR BAS-RELIEF SHOWING A HUNT IN THE MARSHES

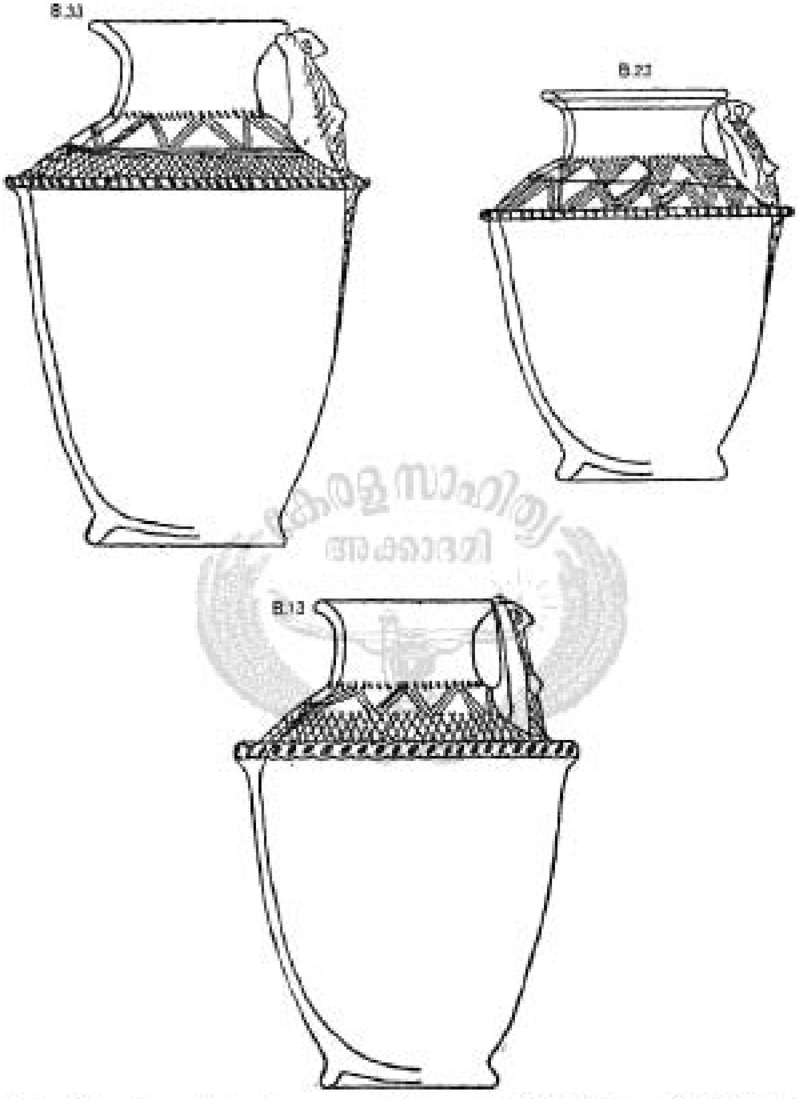
[face p. 181

Royalties who were armed with golden daggers sharpened them on lapis whetstones.

The bow[6] was probably already of the variety known as composite ; in any case some bows were bound with gold and the ends were tipped with curved pieces of copper to which the string was attached. The arrowheads were normally of metal and leaf-shaped, sometimes barbed or four-sided ; most are tanged but some have tubular sockets formed by folding the beaten copper. However, one bunch of arrows from the tomb of Mes-kalam-dug at Ur had been tipped with chisel-bladed heads of flint. These were based upon the trapeze, but the edge opposite the blade has been narrowed down into a sort of tail. The shafts were reeds often equipped with little metal prongs, like the spear-butts on a smaller scale, to replace the notch.

The harpoons used in fishing were chisel-ended and single-barbed. They look like metal versions of the type formed by setting a flint lunate obliquely at the end of a reed.

Among the Sumerians vessels of gold, electrum, silver, copper, alabaster, obsidian, lapis lazuli, and ostrich-shell had ousted fine pottery from the tables of the wealthy while the friezes of animals painted on the prediluvian clay vases have been replaced by the processions carved in low relief on the stone vessels. Sumerian pottery was a thorough factory product but technically of good quality, hard-burned, drab in colour and turned on the wheel. True handles do not



കേരള സാഹിത്യ അക്കാദമി

FIG. 76.—Jars with anthropomorphic handles, Kish A, $\frac{1}{12}$, after Mackay.

occur, but on some jars from Kish the rim of the neck is joined to the shoulder by a flat strip decorated on its outer surface with the features of a human face (Fig. 76). Spouted jugs are very common, this and other forms having

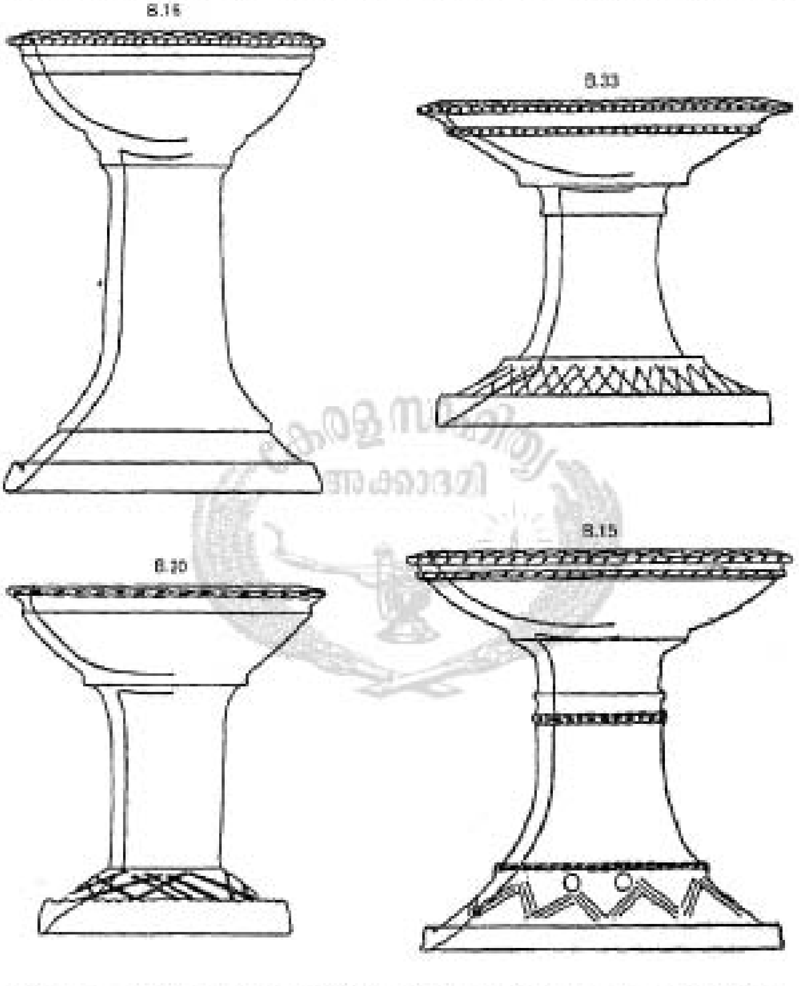


FIG. 77.—Clay basins or offering tables, Kish A, $\frac{1}{10}$, after Mackay.

been taken over from the prediluvian period. The most distinctive shape from the older tombs was, however, the large "table of offerings" on a high hollow pedestal, often perforated with triangular apertures (Fig. 77). Sometimes the shallow basin at the top is omitted altogether, leaving a tubular "stand" such as we have met in protodynastic Egypt. Nevertheless there is

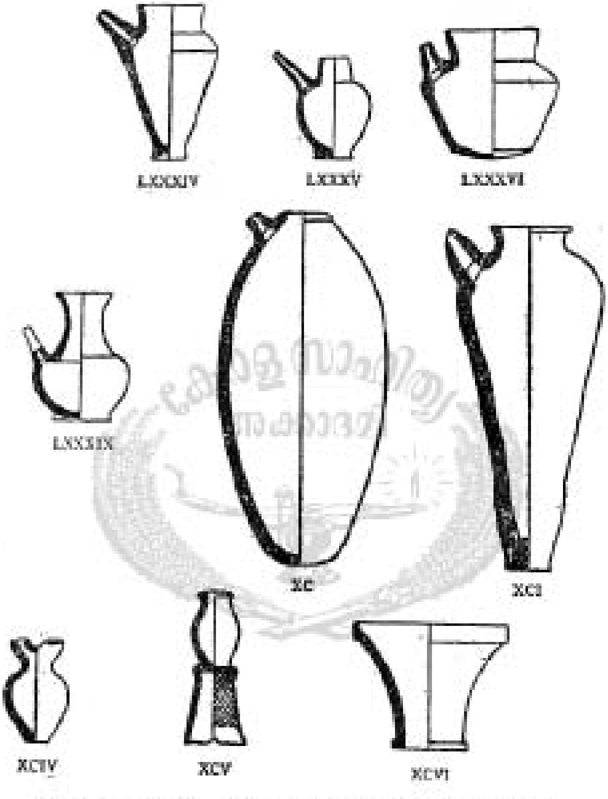


Fig. 78.—Spouted jars, al 'Ubaid cemetery, $\frac{1}{12}$

evidence that these "Herdständer", and "Opferständer" as the Germans call them, originally supported a basin of wood or some other perishable material.

The metal vessels supply the prototypes for many of the forms reproduced in clay. The bases were often cupped to form a ring stand, spouts might be soldered or brazed on, the rims were occasionally strengthened by doubling over. In a few cases wire loops have been

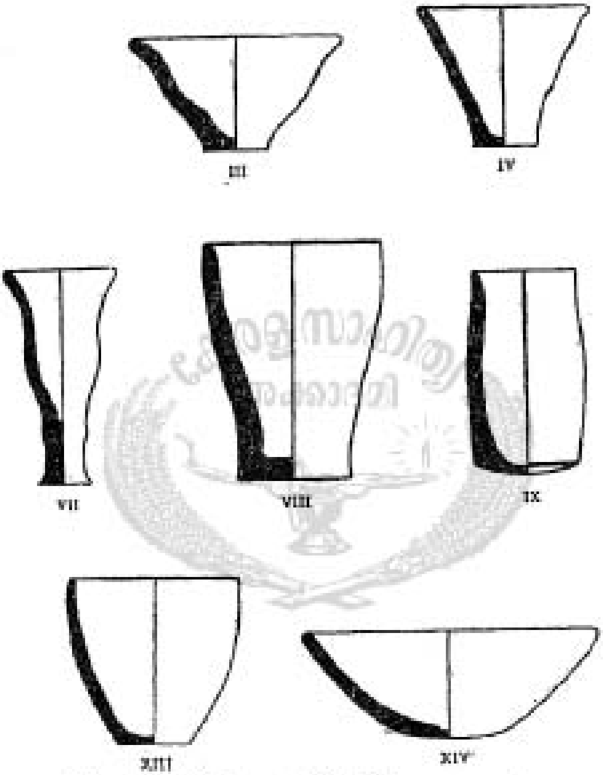


FIG. 79.—Beakers, al 'Ubaid cemetery, $\frac{1}{12}$.

passed through perforated metal beads soldered on to the rims and the large copper cooking pots were provided with movable handles like modern cauldrons, but jugs and cups were always handleless. The metal vessels are often tastefully decorated with flutings radiating from the base that might be supplemented by engraved bands below the rim and simple patterns such as the rosette on the base. We may note among the shapes graceful tumblers resembling in outline those from Susa I, various spouted jugs, and offering tables exactly like the clay ones described above. As a curiosity we

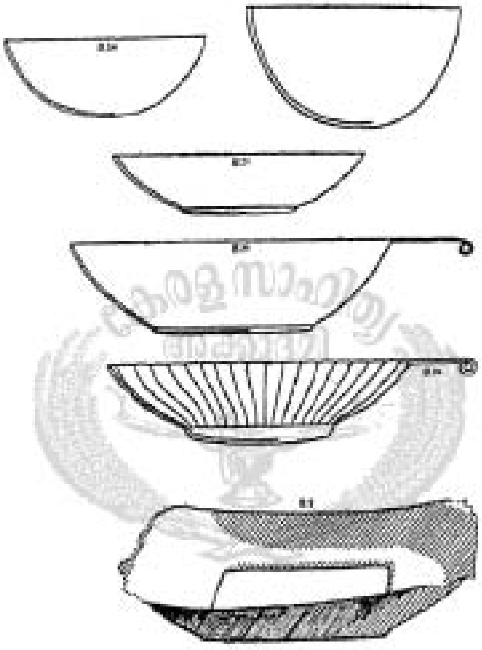


Fig. 80.—Copper vessels, Kish A, $\frac{1}{3}$, after Mackay.

may cite a silver wine-skin from Queen Shub-ad's grave in which even the lugs left by the legs have been faithfully imitated.

Among the stone vases the greatest variety is observable both in material and shape. Lapis lazuli and obsidian were naturally reserved for royal persons. Calcite, steatite, and alabaster were far commoner. The resemblance in form and material of the cylindrical alabaster vases to protodynastic Egyptian types suggests that these may be importations from the Nile valley,[10] but no petrographic examination has yet been made to confirm this hypothesis. By the time of the First Dynasty of Ur at least the limestone vases were often carved with figures in low relief while even in the supposedly older tombs of Ur geometrical patterns are carved on the vase walls.

Ostrich shells were also used as vases and were sometimes decorated by a band of bitumen inlaid with lapis lazuli. And mother-of-pearl shells[3] served as lamps. In typologically late specimens the opening is enlarged by cutting, and a second hole is cut in the first volute, leaving a narrow strip which is shaped and engraved to represent the head and neck of a bird. The shell lamps were then copied in metal or alabaster, the vessel being open all over.

Cardium and cockle shells were regularly used to contain the face-paints both at Ur and Kish. At Shuruppak[11] palettes of alabaster are mentioned.

For the toilet the Sumerians were indeed well provided.

The facial hair was removed with razors, flat oval blades with a short tang rather like Fig. 33. "Cutters," narrow copper strips with an edge at one end and turned over or rounded at the other, seem to have served a similar purpose,[9] and tweezers were also in use. The latter

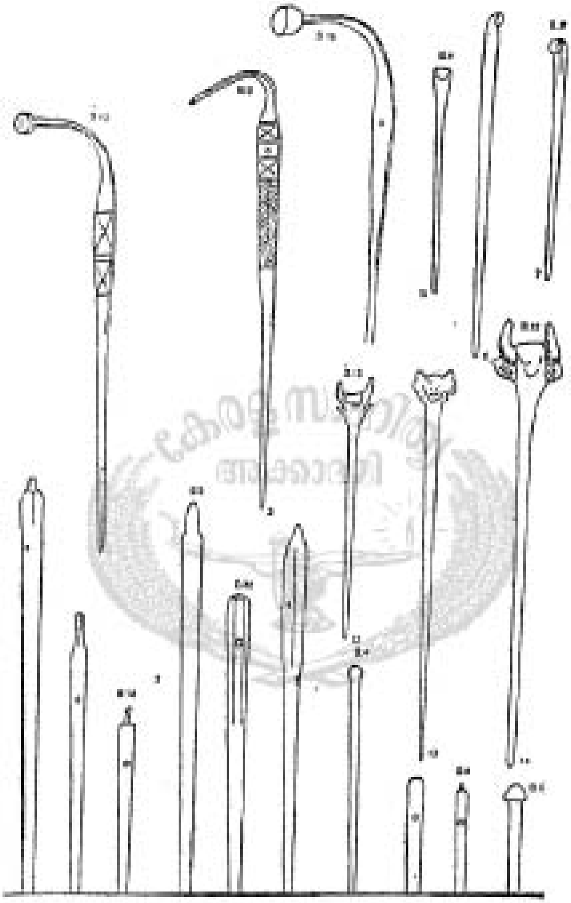


FIG. 81.—Copper pins, Kish A, ⅓.

were combined with prickers and earscoops in regular reticules.[6] The three instruments were attached to a ring and enclosed in a case. The looped head of each instrument, through which the common ring passes, has been formed by hammering out the upper end of the implement into wire and then twisting this wire back upon itself and coiling it round the shaft—in a word, on the principle of the knot-headed pin (Plate XIX*b*).

Pins fastened the garments or adorned the hair.

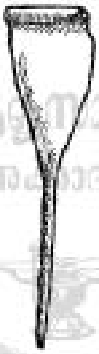


Fig. 82.—Raquet pin, Ur, ½.

Favourite types are the bead-headed variety attributed also to the Second Prediluvian culture and the toggle-pin in which the shaft is flattened round the eyelet, and at Kish sometimes decorated with an engraved pattern that recurs on pins of the same family in Central Europe (Fig. 81, 3). Less common are the pins with a stylized bull's head, represented at Kish, while one surmounted by an ape from Ur is unique. The hairpin with raquet-shaped head shown in Fig. 82 is another type that recurs in Central Europe; Woolley is no doubt right in suggesting that the tube formed by rolling over the head was designed to support two feathers.

The arms were decked with bracelets and the fingers with rings, but these ornaments were always of the simplest type.

The ear-rings, necklaces, diadems, and pendants illustrate better than anything else the supreme skill of the Sumerian goldsmiths and so give a welcome indication of the level of civilization attained. In the ears were hung helical rings the ends of which have generally been flattened out to a boat-form (Plate XXII). Among dandies the ends were magnified to an extravagant size. A fillet of gold or silver, decorated with engraved or punctured patterns, was sometimes worn on the brow as a frontlet. The throat was encircled by strings of beads from which hung pendants and amulets. The pendants include heart-shaped leaves, rosettes encircled by a hoop and groups of helical cones of gold wire soldered on to a gold hoop (Plate XXI*b*). The execution of these little coils and their mounting attests the consummate skill of the goldsmith. No less admirable are the amulets

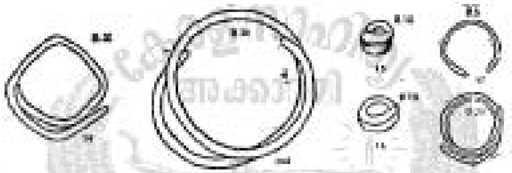
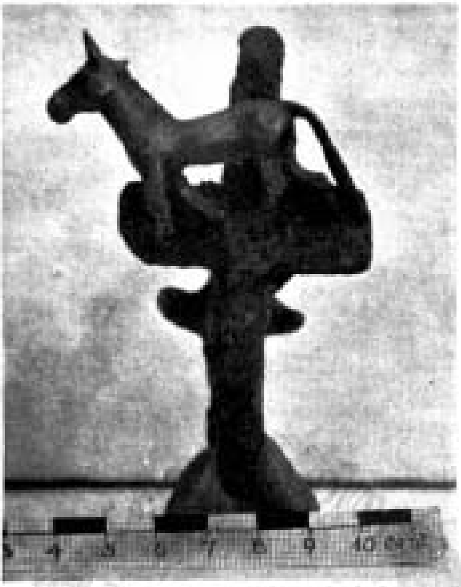
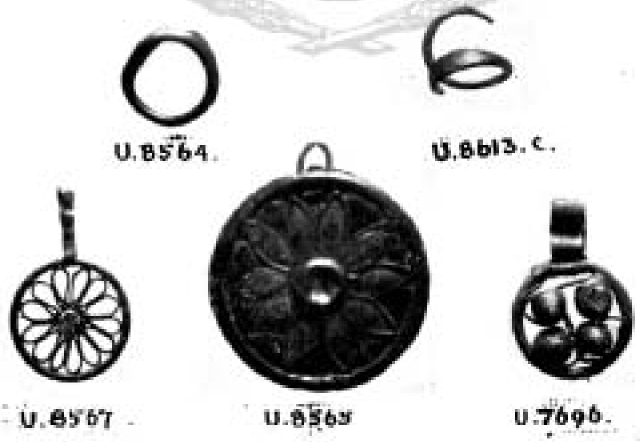


FIG. 83.—Copper bracelets and ear-rings with flattened ends, Kish A, ½.

PLATE XXI



a. REIN RING AND MASCOT FROM QUEEN SHUB-AD'S CHARIOT



b. EARRINGS AND PENDANTS FROM GRAVES AT UR

[face p. 190

in the form of bulls (Plate XXII*a*), some represented as wearing a false beard, birds pecking at fruit, sheep, deer, fishes, and other animals.

Lapis, cornelian, gold and silver and fayence (the latter substance not in the oldest cemeteries at Ur) were the commonest material for beads, though shell and various less valuable stones were used. Discs, cylinders, long bicones, barrels and tabular or biconical faceted beads are the commonest types, but there are multitubular and other spacers, gadrooned globes and barrels (at Kish as in Protodynastic Egypt) and compounds—for instance two axially gadrooned globulars united by a segmented tube.

The splendour of the head-dresses of the queens and harem beauties from the older tombs at Ur baffles description.

Turning to burial rites, the common citizen was normally interred in a simple trench grave in the flexed posture, though sometimes he might be wrapped in matting or enclosed in a pottery coffin—variations which apparently go back to the protodynastic cemeteries at Ur.[5, 6, 9] In some cases, particularly in what seem to be the earliest graves, Woolley[6] states that the head had been consumed by a fire kindled apparently in the grave itself. The excavator describes this phenomenon as "partial cremation", but Hall[10] questions whether the burning was deliberate.

The Royal Tombs[7] discovered during the campaign of 1927–8 at Ur belong to a quite different world of

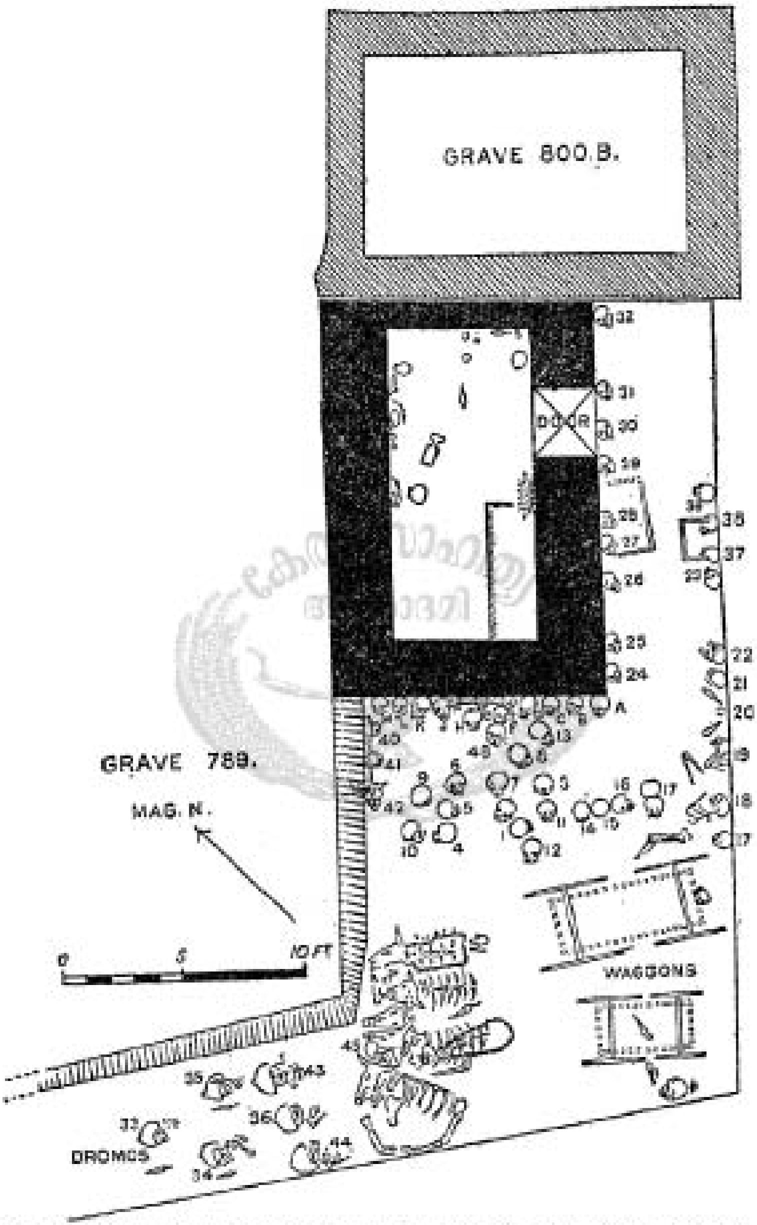
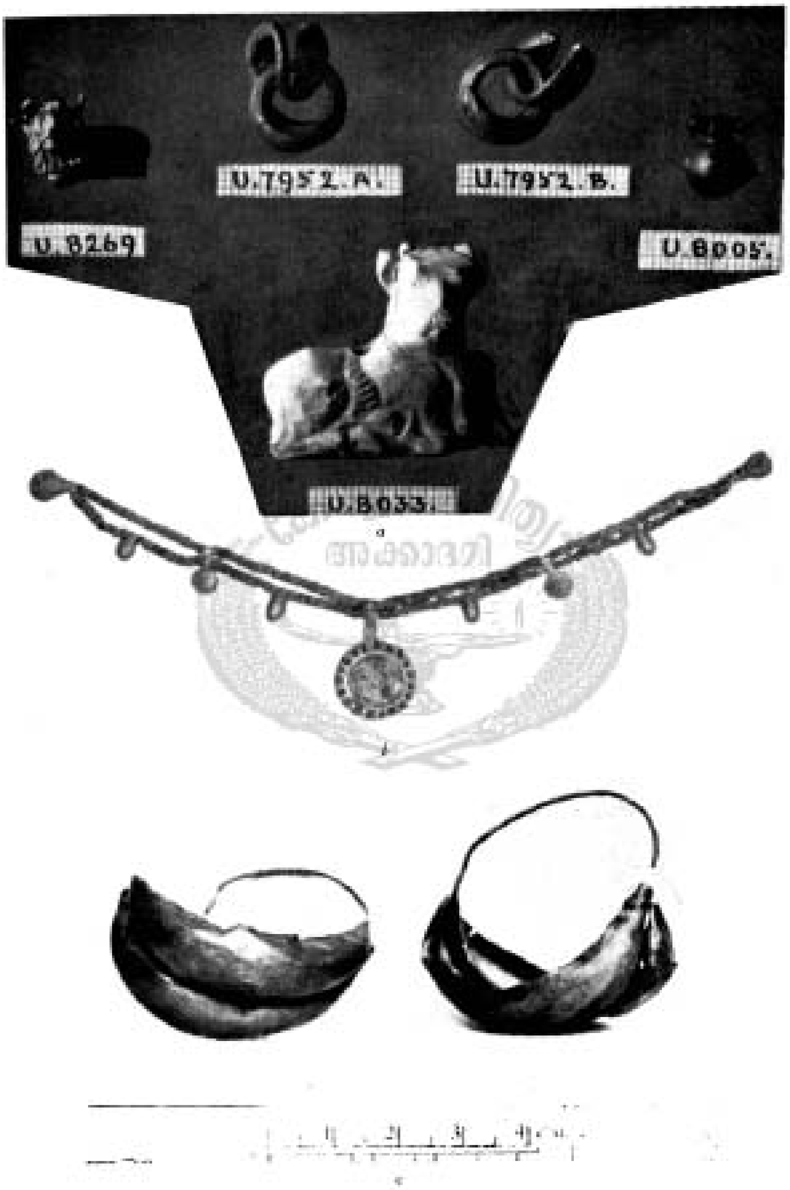


Fig. 84.—Plan of two Royal Tombs at Ur, showing disposition of victims in P G 789.

PLATE XXII



JEWELRY FROM GRAVES AT UR

[face p. 192

ideas; for the sepulchre is evidently intended to be a real underground house. The burial place was a huge shaft that might measure as much as 12 by 8 m.^{2} At the bottom the underground dwelling was built of brick or stone. One consisted of three parallel chambers of undressed stone each measuring 5·90 by 2·50 m.^{2} in area and roofed with a corbelled vault. The ideas associated with the underground house were here, as at Kish, carried out with barbarian logic.

The royal dead had been conveyed to the tomb on chariots or sledges dressed in full insignia. Not only the draft animals, but drivers, courtiers, ladies-in-waiting and the women of the harem, musicians, and armed guards were obliged to follow their sovereigns to the future world. In the same chamber as the body of Queen Shub-ad lay the corpse of an attendant, while her ladies-in-waiting, harpist, and grooms lay in the shaft where they had been slain. Outside the tomb of a nameless king lay the bodies of twelve women in court dress, soldiers, fully armed, attendants, and grooms (Fig. 84).

In the King's grave was found further a silver boat, and bitumen models of boats were deposited in later graves. Naturally these discoveries suggest comparison with the funerary boat of the Nile, attested from the Old Kingdom onwards. The Egyptian idea of a voyage to the other world is also evoked by several seals from Kish. Yet there is no textual evidence for such a belief in Babylonia whereas there are documents implying that the boats were perhaps designed to carry away the sins of the departed. But of course there is an equal absence of epigraphic testimony to the slaughter of victims at royal burials. Both practices seem restricted to the late prehistoric and earliest historic period. Both might therefore be inspired by Egyptian ideas, not perfectly assimilated, and subsequently rejected.

Yet in other respects the main features of Sumerian religion, as we know it in the third millennium, seem to have been already established by the fourth. The familiar ritual dress, gestures, and vessels are already represented at that date, the typically Babylonian monsters are already engraved on shells or seals, even Gilgamesh himself, that peculiarly Sumerian hero, seems to be depicted on an engraving from one of the very oldest graves of Ur (Plate I). The oldest concept in Sumerian theology was the Mother Goddess who under many names was worshipped in the several cities ; we already have the temple of such a deity at al 'Ubaid under the First Dynasty of Ur, and evidence for the cult of another at Kish quite as early. All this is in striking contrast to Egyptian religion ; only in the story of Isis and Osiris, that has been inspired by Asiatic ideas, did the Nilotes approximate to such a conception.

Sumerian art too was fully individualized by the time of the First Dynasty of Ur. The characteristic media for the school were engraving on shell (particularly mother-of-pearl) and inlaying with shell and other materials such as lapis and cornelian, generally upon bitumen. But the Sumerians were already executing monumental sculptures at least in wood and bitumen by the time of the earliest graves from Ur and began statuary in stone (trachyte and limestones) about 3000 B.C. The use of granulated and filigree work in the jewelry also deserves notice. A definite affection for round surfaces[12] as the supports for bas-reliefs or engravings is noticeable in the carving of stone bowls and mace-heads and may have dictated the choice of the cylinder as a form for seals. It is quite alien to Egyptian taste. Among the motives should be noted the running spirals in gold wire decorating the reticule from Ur (Plate XIX*b*), the rosette and star with an even number of points (generally eight), the trefoil and quatrefoil, the series of eyes used as a frame and the guilloche.

We are apt to be so dazzled by the complexity of the institutions and the perfection of the art revealed in the newly discovered tombs that the whole civilization looks like a miraculous child for which a foreign divine parent must be sought. It is indeed a far cry from the prediluvian village at al 'Ubaid. Yet links are not altogether wanting. In the First Prediluvian period copper, bitumen, and plano-convex bricks were already in use; many distinctive Sumerian types can trace their pedigree to that remote period, for instance the shaft-hole axe, the spouted jar, the bird with outspread wings, and the " bun " of hair at the back of the head. The mountain origin of the Sumerians inferred from later legend and ritual could be explained by a First Prediluvian ancestry.

It would equally be false to set up an impassible gulf between the Second Prediluvian culture and the proto-Sumerian. The latter certainly has dispensed with some of the most distinctive traits of the Second Prediluvian, vase-painting, compartment bowls, theriomorphic vases and seals. But the loss of painting may just be the result of industrialization of pottery ; other traits may be Elamite peculiarities, not common to the whole group, while others again may really have persisted. The only distinctively Sumerian elements not attested in the Second culture—the *kaunakes*, shell-inlay and engraving, man-headed bulls—may simply be awaiting discovery. In any case it must be admitted that the protohistoric culture derived all its leading inventions—writing, chariots, cylinder seals—from the Second, unless Jemdet Nasr and Musyan be dismissed as provincial back-waters reflecting imperfectly the true Sumerian civilization as disclosed in the oldest royal tombs at Ur.

There are indeed those who would see in the Sumerians an invading minority who had imposed their language and their culture upon the autochthonous inhabitants of Mesopotamia. And to explain the " higher civilization " it is natural to invoke Egypt. Now, that Sumer was in contact with Egypt in the protodynastic period is clear enough, and the relations were most intense in the earliest period as represented in the Ur graves. As a counterpart to the Babylonian constructional methods and artistic motives appearing in Egypt we now have the sistrum (from an early tomb), the funerary barque, the chamber tombs and the alabaster vases. But the same tombs contain a host of objects that are thoroughly Babylonian and often specifically Sumerian; on the same inlay as the sistrum appears Gilgamesh and on the very same panel a bear!

We are dealing accordingly with intercourse between two mature cultures.

It is hard to determine which partner made the leading contributions. From the apparent continuity of funerary ritual and architecture on the Nile it might well be argued that the chamber tomb as represented at Ur or at Kish had been suggested by Egyptian originals and consequently that the whole system of ideas embodied in the oldest Sumerian graves was introduced from Africa, especially as it persisted on the Nile while no later parallels have been found in Babylonia. It would be an easy step to argue that the "heaven" whence "the kingship descended" to make such tombs possible and necessary was located on the Nile, that the dynasts responsible for the synoicism of the cities were "Children of the Sun"!

That argument might, however, be inverted. In Sumer the funerary ritual was carried out with a primitive logic unknown in Egypt even in the Royal Tombs of the First Dynasty. In any case in material progress and wealth Sumer was far ahead of Egypt. The latter country lacked, for instance, the finer types of metal tool, such as the socketed axe, and wheeled vehicles, and no

Egyptian jewelry anterior to the Third Dynasty can compare either for sheer wealth or artistic merit and technical excellence with that of Shub-ad. The fact is that at the point we have reached no one-sided relationship, still less theories of conquest or colonization, can explain the facts. Egypt and Sumer were civilized countries, whose citizens were not restricted to the external relations of direct or indirect barter or to the planting of mining colonies such as Perry seems to have in mind. In each country there existed specialized craftsmen who, whether free or servile, were emancipated from the bonds of the primitive clan and would gravitate in accordance with purely economic laws to the centres where trade and wealth were concentrated. At the time Sumer was the focal point, and thither would come artificers from other lands bringing with them their native crafts and inventions. Thus, as Sidney Smith[12] very pertinently suggests, stone-workers trained in the Egyptian school may very well have been the makers of the much discussed alabaster vases of Mesopotamia. The diffusion of the art of making glazes must be understood in the same way. The mere fact of the land's material superiority would expose it peculiarly to percolation by foreign ideas. But such percolation would in no sense affect its radiating power.

Nevertheless the concentration of wealth and trade itself demands explanation. The native genius of the people who could invent writing and wheels and harness the ox and the ass will doubtless explain very much.

But since Babylonia failed to maintain the position of supremacy she had acquired as compared with Egypt, it would seem that some special factors came into play. These were partly political and as such elude our grasp ; perhaps ethnic forces too were at work. Perhaps the dynasts who concentrated wealth and power in the cities were foreign conquerors. But such events are equally incapable of proof with the evidence at our disposal. But one cultural factor that may lie at the base of the other two is becoming accessible. The first prosperity of Sumer was bound up with Indian intercourse.

The regularity and intimacy of the intercourse with India is proved by the occurrence on Sumerian sites of objects imported from the Indus valley, the oldest indisputable instances in the world of manufactured goods of precisely defined provenance being transported for long distances from the centre of their fabrication. At Umma, Lagash, Ur, and Kish, in the last two instances in pre-Sargonic deposits, have been found rectangular stamp seals of steatite, in some instances glazed, which agree precisely in shape, material, and design with those found in great abundance in the ruins of prehistoric cities in the Indus valley. Then in the archaic tombs at Kish Mackay[14] found beads of cornelian etched with patterns by an elaborate process. Such beads, to which Ur has now yielded parallels, are in Mesopotamia confined to this one period, but in India they are common and enjoyed a long popularity. Finally from al 'Ubaid come fragments of vases made from a rock, identified as the

" pot-stone " which is used still in India for the manufacture of vessels. The survival of such scraps is some indication of the liveliness of commercial intercourse between the two distant lands.

It has, however, been suggested that this intercourse denotes more than trade. The popularity of mother-of-pearl as a material for inlays connects the Sumerian civilization by one of its most fundamental traits with the south. The legend of Oannes who came up the Persian Gulf to found the first Sumerian city at Eridu and the Sumerian location of paradise in the south point in the same direction. Those who believe that the *kaunakes* was a palm-leaf skirt can cite the use of a similar garment in modern India and above all its association with the pre-Aryan goddess Parnaçavari.[15] Dr. Hall[16] has drawn attention to the resemblance of the Sumerians as represented in their statuettes to the Dravidians of India. And now the discoveries on the Indus have revealed a civilization still more advanced than that of Mesopotamia before the middle of the third millennium ; there many of the distinctive elements of the Sumerian's cultural superiority existed in a still more developed form.

Do the trade relations attested about 3000 B.C. just continue older ethnic relationships ? Were the higher elements of Sumerian culture inspired by India ? Did the Sumerians themselves as a conquering minority bring those devices to Mesopotamia ? Before answering these questions we must see what is known of the Indus civilization.

CHAPTER IX

THE INDUS CIVILIZATION

SINDH and Southern Punjab form in a sense an eastern counterpart to Mesopotamia on an enlarged scale. The region, like Irak, is a recent alluvial plain watered by one, or originally two, mighty snow-fed rivers. Its western border consists of steep ranges leading up to the same high tableland that constitutes the eastern frontier of Mesopotamia. The great Thar Desert, east of Sindh, balances the Arabian Desert west of Babylonia. Upstream the Indus plains lead into a submontane zone comparable to that of North Syria. The lowlands, as already indicated, lie outside the true monsoon area and rely for their rainfall largely on the same Atlantic storms as water Mesopotamia. They are not encumbered with tropical jungle, but nourish principally drought-resisting plants, many species being shared with the desert belt between the Zagros and the Atlantic.

The river valleys give pasture for cattle capable of domestication, including the humped Indian oxen or zebu that on one theory are the ancestors of a common breed of early domestic cattle in Babylonia and the West.[1] The foot-hills to the north and west are still the haunts of urial sheep from which the oldest European domestic sheep were descended. If Vavilov is right in deducing an original focus of wheat cultivation in Afghanistan, the wild ancestors of the plant must once have extended into Western India. That country certainly was the home of cotton. Copper ores are available in the Salt Mountains to the north and in the western ranges.

In glacial and early postglacial times the Indus basin enjoyed a more bountiful rainfall than to-day owing to the deflection southward of the Atlantic cyclones. In fact, we now know there were extensive tracts of jungle that sheltered the tiger, the rhinoceros, and the elephant in the Southern Punjab and Sindh. Parallel to the Indus flowed another great stream, the Great Mihran, that carried the waters of the Sutlej to the sea.

Though his relics on the alluvial plain are naturally buried in silt, palæolithic man, allied culturally to the early inhabitants of North Africa, had spread right across into Central India. And from a purely typological study of the stone implements, Obermaier was led to the conclusion that the transition from palæolithic to neolithic industry very possibly took place in India. In any case in the pluvial period all the conditions for the rise of a high civilization were fulfilled in India.

Within the last six years proof of the existence of a mature and complex civilization flourishing in the Indus basin under precisely such climatic conditions has come to light.[2] Its antiquity is proved not only by the representations on its monuments of animals now extinct in Western India but also by the Mesopotamian connections.

The Indian seals already mentioned, that appear in Babylonia early in the third millennium belong to the latest phase of the civilization at home.

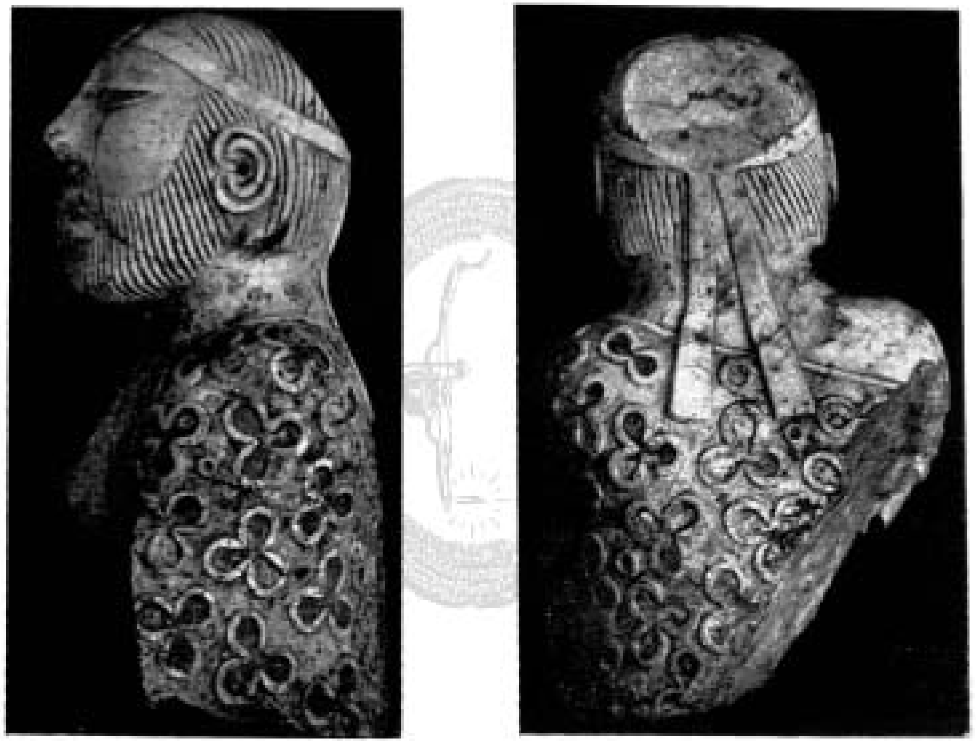
Indeed the Indus civilization is already old when we meet it. At the one site, Mohenjo Daro in Sindh, no less than ten superimposed cities have been identified, though only the three latest have hitherto been explored. The parallel site in the Punjab, Harappa, was apparently abandoned sooner and the material gathered there is on the whole older than that reached further south.[3] But the high antiquity of the Indus civilization is proved in other ways. Our material is derived from vast cities with regular streets, houses, and temples. But not only is the civilization thoroughly urban, its authors have dwelt in towns so long that they have devised amenities, such as drains and baths, the necessity of which was only recognized in relatively modern times.

Of the antecedents of the civilization that soon after 3000 B.C. had reached such a surprising level, nothing is known. In Baluchistan and Waziristan there are humbler sites that have yielded cognate remains of a barbaric sort. And then there is Tell Kaudeni[4] with primitive tools and weapons and a pottery that invites comparison with Susa I. Do these cultures represent rude forerunners of the Indus civilization? Or are they mere stages in its peripheral degeneration? Before considering in detail the implications of these two alternatives, we must summarize what has been vouchsafed to us in newspaper reports of the Indus civilization.

The authors of the Indus civilization apparently practised cremation, but a number of skeletons, perhaps the victims of a pestilence, were found in a late house at Mohenjo Daro. These all belong to a dolichocephalic type, apparently resembling the " Mediterranean race ". One skull, interred by itself at Mohenjo Daro, on the other hand was pronouncedly brachycephalic. The same impression is produced by the alabaster statuettes depicting a type not unlike the Sumerians with prominent nose, thick lips, and receding forehead (Plate XXIII). The hair was worn long done up in a bun at the back of the head, exactly as in Sumer. The upper lip alone was shaved, a short chin beard being allowed to grow. A patterned shawl was worn over the left shoulder and under the right. A kilt or skirt was draped round the loins like the Sumerian kaunakes.

The primary basis of life was agriculture for which the then prevailing climate and the possibilities of irrigation, opened up by the twin rivers afforded ideal conditions. Wheat similar to that grown locally to-day was accordingly cultivated as the staple article of diet. Domestic animals were also kept. The cattle belonged to two stocks, the zebu race, *Bos indicus*, and a short-horned stock. Buffaloes, sheep, pigs (of the variety *Sus cristatus*), elephants, and horses were also kept. Two varieties of dog, one like the modern pariah and another reminiscent of our mastiffs, have also been reported. Fish, including sea-fishes imported presumably dried, turtles and tortoises were also eaten. And true cotton was grown for the manufacture of textiles.

PLATE XXIII



STONE STATUETTE FROM MOHENJO DARO

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A proportion, however, of the population dwelt, as already remarked, in cities. These were regularly laid out with streets, temples, and baths. The universal building material was brick, the bricks being thin and biscuit-shaped (11 in. by 5·5 in by 2·75 in., or 17 in. by 8·5 in. by 3 in. at Mohenjo Daro)[3] but kiln fired and set in genuine lime mortar. Bitumen was used as a damp-course in drains and baths. Stone was perhaps used for pillar bases. But wood was employed for floorings as well presumably as for roofs. The principle of the arch is not illustrated by any monument ; drains were covered over with a corbelled vault. In one or two external walls niches two to three feet wide and nine inches deep were used decoratively just as in Babylonia.

Naturally such a civilization subsisted on trade. Copper was imported from the neighbouring highlands to the east or the west, tin from Khorasan or Burma, shells and fish from the sea coasts, bitumen perhaps from Mesopotamia. This trade was facilitated by a system of writing which was still partly pictographic. The signs are found stamped on copper bars or engraved on seals that served to authenticate documents which have perished. A system of weights was recognized which differed from the Babylonian.

The Indus people employed the motive-power of animals in industry and commerce as did the Sumerians. The elephant and the horse can only have been domesticated for such purposes and a copper model from Harappa depicts a two-wheeled cart with a gabled hood over it.

Navigation, at least on the Indus, is presupposed in the evidently regular intercourse with the coast.

The urban artizans were expert in working metals, principally by hammering but also to some extent by casting, and could even make an alloy of copper with from 6 to 12 per cent tin. The crafts of the potter, weaver, goldsmith, and jeweller were no less flourishing. Moreover the secret of producing glazed fabrics had been mastered, and beads and larger articles were made of a blue encaustic fayence.

FIG. 85.—Copper dagger and chisel, Harappa.

None the less even in the cities metal had by no means ousted stone tools; chert was used for sickle-teeth, scrapers, and knife-blades. Stone was perhaps used for spheroid mace-heads. At the same time copper was employed for the manufacture of many tools and even for vessels of considerable size and was alloyed with tin where a specially durable edge was required as in razors. Few types have yet been published and the number of weapons is particularly small. We may note here long flat axe-heads and adzes (celts), narrow chisels, tapering daggers with pointed tangs but no rivet holes and straight backed saws with a convex blade (Fig. 85). Some of the chisels broaden out a little below the butt, the sides then contracting only to splay out again at the blade.

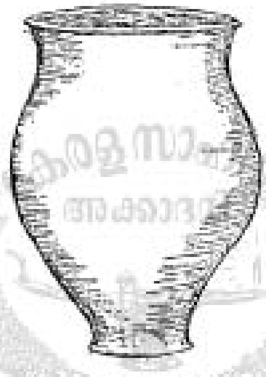


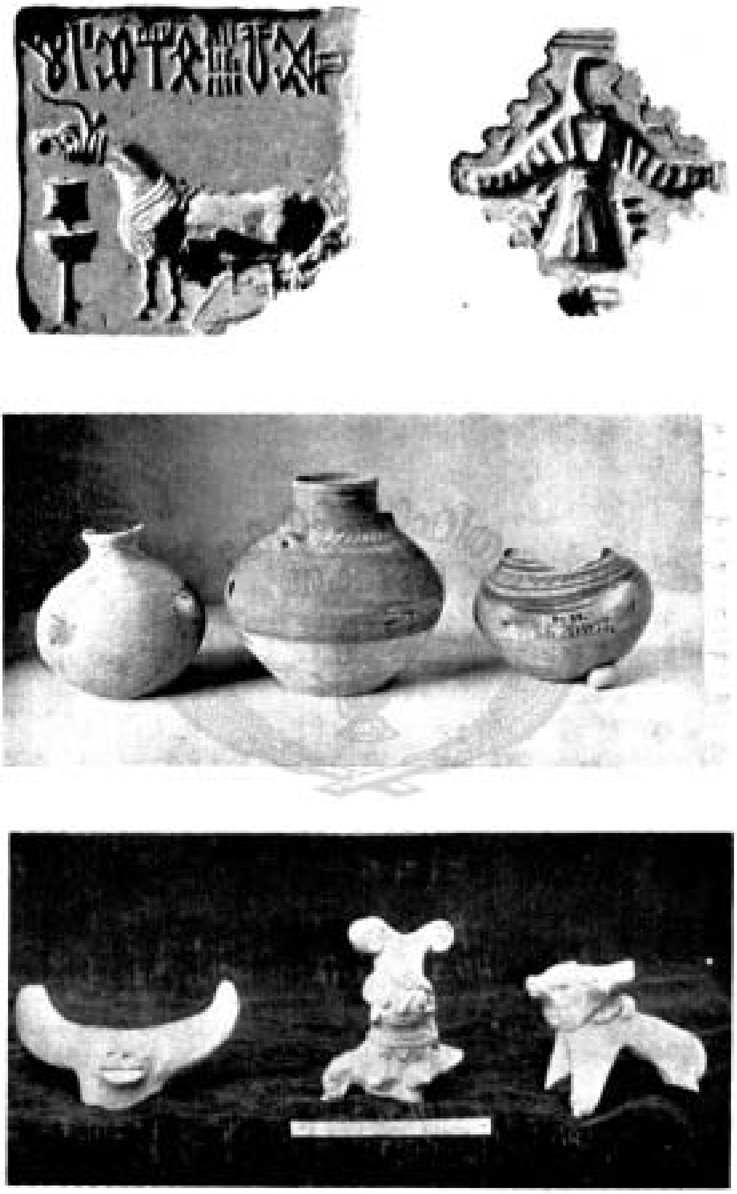
Fig. 86.—Copper beaker from Ha

Vessels were made of copper, silver, shell, and pottery. Spouts and handles were apparently unknown. One silver vase is cylindrical in shape, while some copper vases resemble tall beakers with narrow cupped bases and splayed out lips (Fig. 86). The pottery types include many similar beakers, great elongated piriform jars with very narrow bases and well-formed necks. Some craters stand on pedestals. Most of the pottery is plain, but painted ware occurs especially at Harappa. The paint is generally black on a red slip or wash, and the patterns are predominantly geometrical, including concentric circles and rosettes.

Pins do not seem to have been used but Harappa yielded an interesting toilet set.[3] It consisted of a pricker, a narrow knife, and a pair of tweezers. The butt of each implement had been hammered out into wire, which was bent back and twisted round the stem to form a loop. This triad of interlaced implements forms an almost exact counterpart to the Sumerian reticules, and show that the idea of the knot-head was familiar on the Indus.

Elaborate metal plugs made in two pieces were worn in the ears. Strings of spherical, barrel-shaped, tubular and rounded lenticular beads of cornelian, jadeite, ivory, gold, silver, variegated stone, shell, or fayence were hung round the neck or worn as girdles. Multiple necklaces of five strings, separated by spacers, seems to have been specially popular. Some of the barrel-shaped beads are divided into segments by deep cuts. The arms and ankles of the women were encircled with bangles and anklets of gold, silver, fayence, or shell. These ornaments are often of the penannular type, not otherwise represented in the most ancient east, but very popular in Europe during the bronze age.

PLATE XXIV



SEALS, PAINTED POTTERY AND FIGURINES FROM INDIA

[*face p. 209*

The general practice was apparently to cremate the dead and deposit the ashes in cinerary urns or in small brick shrines. However, in one case at Mohenjo Daro, a skull had been ritually buried without the other bones of the skeleton, but accompanied with vases and offerings. The large tanks are supposed to have been connected with temples, that no doubt existed at points where later sanctuaries now stand. Female figurines of clay are quite common and may be votives denoting, as in Babylonia, the cult of a Mother Goddess. Of great importance is a fayence plaque representing a female deity sitting cross-legged between two serpent-votaries in attitudes of adoration. There are, moreover, hybrid figures engraved on the seals that have been compared to the Sumerian monsters of the Gilgamesh cycle. Stone rings, some of enormous size and others quite small, are assigned to the class of "ritual objects" by the puzzled excavators. Then there are little stone columns that have been taken for phallic symbols. If these interpretations be correct, many features of later Indian religion must be rooted in the prehistoric Indus civilization. In any case the cross-legged deity between serpent adorants directly anticipates a well-known theme of Indian iconography, and on the seals the *pipal*-tree is already represented as an object of sanctity.

The art of the Indus is best illustrated by the glyptic. The seal-designs of Brahmani bulls, elephants, tigers, and other beasts are admirably executed and thoroughly life-like. No less successful are fayence statuettes of monkeys and dogs. Carving in marble had made some progress as is shown by the male heads from Mohenjo Daro that are certainly finer than the earlier Sumerian statuettes. The clay and copper models on the other hand are thoroughly barbaric; a clay animal with movable head is particularly quaint. The use of shell inlay for the eyes of statues and other work is particularly worthy of attention. Among the motives, apart from animals, the trefoil and the rosette occur on the seals as in Mesopotamia as well as elaborate maze patterns.

What looks like a provincial variant of the same culture is coming to light at Nal in the Zhob valley, and at other sites in the hill countries of Baluchistan and Waziristan. But even here the houses were of brick, and boasted several rooms. Though flint implements are more numerous than in the plains, copper was used at Nal too. Axes, adzes, chisels, and daggers, all of the Indus type, have been found, and even copper vessels have come to light. Painted pottery is commoner than at Harappa or Mohenjo Daro. It is apparently, however, of the same general wheel-turned type, and presents a variety of shapes, often very mature. Fractional burials, represented at Mohenjo Daro by one example only, were quite common at Nal, though cremation and total interment in the contracted posture were also practised.

We have seen that direct intercourse between Sumer and Sindh is attested by the importation into the former region of typical Indian products, particularly seals.

A possible reflex of this traffic in India is the bitumen used for damp-courses at Mohenjo Daro. But it cannot be positively asserted that the material itself came from Babylonia in view of local supplies available in the Suleiman ranges and farther west in Baluchistan. None the less, commercial intercourse between two mature civilizations is proved up to the hilt. But does not some ethnic kinship perhaps underlie these commercial ties ?

The figurines from Mohenjo Daro certainly fortify Hall's identification of the Sumerians with early Indian races ; for the features are really similar, the way of dressing the hair is identical. The daggers from Harappa, again, belong to the same tanged family as the Sumerian, but to a more primitive stage. The Indus and Sumerian beakers have an unmistakable family likeness. The cylindrical vase of silver from Mohenjo Daro invites comparison with the alabaster vessels of the same shape from Ur and Susa. The Sumerian and Indus toilet-sets are in principle identical, and each show the same peculiar construction of the looped head. Artistic devices like the use of shell inlays connect the two regions strikingly. Motives like the trefoil and the rosette, even religious themes such as monsters, are common to both countries. It is fantastic to suggest that the wheel and carts had been independently invented in both lands.

Judging by the domestic architecture, the seal cutting and the grace of the pottery, the Indus civilization was ahead of the Babylonian at the beginning of the third millennium. But that was a late phase of the Indian culture; it may have enjoyed no less lead in earlier times. Were then the innovations and discoveries that characterized proto-Sumerian civilization not native developments on Babylonian soil but the results of Indian inspiration? If so, had the Sumerians themselves come from the Indus or at least from some region within its immediate sphere of influence?

Some of the above-mentioned agreements are of an order that might almost be termed ethnic. A minority from the Indus or saturated with its inspiration might well have been the bringers of wheeled vehicles, toilet-sets, monochrome pottery, mother-of-pearl, and other Sumerian specialities to Southern Babylonia. Yet the Sumerian script is not that of the Indus despite agreements. The Indus art and religion point already as distinctly to historical Indian ideals and cults as do the earliest Sumerian art and iconography foreshadow the classical Babylonian. And there is another set of contacts to be considered.

The painted pottery from Harappa and Baluchistan, despite material and significant differences in technique, forms, and decoration, must in the long run belong to the same family as that described as the Prediluvian in Iran. In fact several distinctive motives are common to both groups: the rosette, the dot-ringed circle, concentric semicircles, the step-pattern, the sloping oval, the "double-axe". Tell Kaudeni in the Zhob valley very truly links the two provinces with its Indian elephant and its Persian lapis.[4] Were Harappa and Mohenjo

Daro offshoots from the prediluvian highland culture like Eridu and al 'Ubaid? Or was the highland culture itself an early branch from the tree, that, rooted in India, grew into the Indus civilization? It would be sheer guess-work to attempt to choose between these alternatives or to decide whether either suffices to explain those similarities between Sindh and Sumer that presuppose racial kinship. Remember that hair was worn in a bun at the back even in the prediluvian village of al 'Ubaid. The second alternative has this to recommend it that it could be harmonized with those hints of an immensely ancient province in the south, rooted in Lower Palæolithic traditions of industry, where agriculture first originated. But with such a speculation we leave at once all hold on the solid world of fact.

Surely that world is romantic and exciting enough! Here, reaching back into the fourth millennium before our era, we find on the now impoverished banks of the distant Indus a brilliant civilization in touch at once with the prediluvian villages of the Iranian plateau and the nascent city-states of Babylonia. That discovery completes the graphic picture of the ancient Oriental world that the treasures of Ur disclosed. Already the laden caravans were crossing the wilderness of Iran that the merchandise of the mysterious east might be bartered for the raw products of the young barbaric west in the marts of Kish. Already the Arabian Sea was ploughed by dhows, freighted with the stuffs of Sindh consigned to Babylonian river towns.

It is worth while dwelling upon the implications of this picture. Part of the commerce between the Indus and the Euphrates was surely conducted by sea as throughout historic times. The Egyptian evidence cited in Chapter VI no less implied maritime intercourse between the twin rivers and the Red Sea terminals of the caravan routes to the Nile. But neither the Indus folk nor the Sumerians appear to us as seafarers. The deep-sea ships on the oldest Egyptian monuments are unanimously termed "foreign". Similar vessels are certainly depicted on a vase from Babylonia and might have grown up out of the native river-craft. But the vase which figures them belongs to a special alien class found only sporadically in Babylonia and Elam; no certainly native representations of the vessels are known.

The inference is that there was a fourth party, a maritime people who acted as intermediaries between Egypt, Mesopotamia, and India. Now, throughout historical times the southern coasts of Arabia and especially the region of Oman have been the homes of bold sailors trading with Ethiopia, Sindh, and gulf ports. The Arabian Sea is named after them. The author of the *Periplus of the Erythræan Sea* extols their exploits and mentions how the commerce of India and Egypt met in their ports. The Babylonian records from Sargon of Agade onwards make mention of the land of Magan, whence diorite and metals were obtained. It was inhabited by sea-faring people, and has been plausibly located in Oman. It is perfectly legitimate to infer that such centres of maritime commerce flourished even in the fourth millennium. Only so does the peculiar indirectness of the relations between Sumer and Egypt in Late Predynastic times become intelligible. It can hardly be fortuitous that on the later coinage of Arabia appears a distorted version of the twin-serpent motive that constituted one of the links between the Nile and the Euphrates. And Yemen, certainly the source of frankincense, is just as likely as Somaliland to have been the original Land of Punt, that figures so prominently in the oldest Egyptian traditions.

But the region in question is not ill-adapted to have been also an originative centre. Geographically the highlands of Southern Arabia are intermediate between the Abyssinian plateau and the ranges of Southern Persia. Ethnologically these coasts are inhabited by remnants of that "negrito" stock that Christian postulated as the first authors of agriculture in Egypt and Elam, together with a brachycephalic majority. Archæologically we should expect there the links between the core industries of Lower Palæolithic ancestry found both in India and Somaliland. Later on it was producing a dark-faced ware decorated with incised and punctured patterns, that belongs to the same family as the incised Nubian wares found on the Nile from Badarian times onwards. The fabric is only known from pyxides found at Lagash and Susa but its provenance is fixed by the boats figured on the first named example; it comes from our assumed maritime centre. A good case might therefore be made out for Arabia as the cradle of civilization, and Crawford [5] and Schweinfurth have both upheld that thesis. Schweinfurth speaks of a triangle of civilization—Yemen, Sumer, Egypt—placing the first centres of agriculture in that order. Crawford asks whether the historical Sumerians and the hypothetical dynastic race of Egypt did not both set out from Southern Arabia along divergent routes to Babylonia and Egypt respectively.

Quite apart from such speculations which are still premature, the rôle of the maritime peoples of the Arabian littoral as intermediaries between Egypt, Sumer, and Sindh is quite a legitimate deduction. There must have been already, as in historical times, a maritime civilization on the Arabian Sea in the fourth millennium, a counterpart to that which flourished on the Mediterranean in the third. The similarities may be more than fortuitous. The first investigators of the Elamite and the Indus scripts were alike struck with the resemblance of many signs to the Minoan.[6] Such a general similarity would be intelligible if the respective scripts went back to a common system in use among early nautical merchants. The Phœnicians preserved to the time of Herodotus a tradition that they had come from the Persian Gulf—a tradition quite as worthy of credence as that referring to the foundation of Melqart's sanctuary that excavation has partially verified. It is thus quite possible that the sudden rise of a brilliant maritime civilization on the Mediterranean was due in part to the transplantation across the Isthmus of Suez of some of the coastal culture of the Arabian Sea.

The rise of higher civilizations in Mesopotamia and Egypt must be interpreted in the light of the facts already adduced. One condition for the progress there exhibited seems clearly to have been the enlargement of the mental horizon by contact with distant lands. Trade conducts diverse ideas and inventions, crystallized out in response to varying environmental conditions, into a single crucible. Their fusion produces not a mere mechanical aggregate but a new compound endowed itself with generative powers. Commerce with India explains the rapid concentration of wealth and also of ideas in the Tigris-Euphrates valley. The cities of Babylonia throughout history have owed their prosperity to their position at junctions of the great overland trade routes to India and Inner Asia on the one hand, and to Syria and the Mediterranean on the other, with the maritime route to India and Abyssinia.

Before three thousand B.C. a peculiar conjuncture of circumstances favoured the establishment of far-reaching communications between peoples in North Africa and South-Western Asia. The climatic changes were producing a continuum of human groups that were gradually sorting themselves and finding a permanent cultural level by adaptation and specialization to meet peculiar local circumstances. The final result of such specialization was exclusiveness, hostility, and predatory activities that eventually seriously impeded intercourse as did the increasing extent of desert tracts. These obstacles would affect Sumer, which owed its special prosperity to its intermediate position, sooner and more adversely than Egypt. The latter was rather a terminal country, and incidentally exported necessities like grain in return for luxury articles like spices and cedar wood.[7]

Secondly, there was an internal source of weakness in Babylonia. The city-states along the two rivers were powerful enough to retain or at least demand local autonomy while their mutual interdependence would promote jealousies. So Babylonia was rent from very early times by wasteful and destructive internecine wars. The clan villages or petty townships of predynastic Egypt on the other hand were unable to defend their local autonomy, for all their mutual suspicions, against the unifying powers of Menes and the Falcon clan. The conqueror gave Egypt internal peace just at the moment when the high material culture of the Sumerian cities was making their hostilities peculiarly dangerous and destructive.

Finally, it looks as if some catastrophe overtook the cities of the Indus basin shortly after 3000 B.C. Mohenjo Daro was deserted about that time, Harappa even earlier. Hence Sumer lost her civilized partner in the commerce of the East.

The apparent contradiction, revealed by a comparison between Egypt and Sumer, is thus resolved: it showed Sumer definitely ahead of Egypt at the end of the fourth millennium ; a few centuries later the mutual positions of the two countries had been completely reversed. Egypt, entrenched at the head of the trade-routes, supplying indispensable commodities and blessed with internal peace, had prospered. Sumer, her trade oppressed by exacting barbarian neighbours, rent by civil war, and deprived of Indian inspiration, could barely hold her own against the savagery that encompassed her, and lacked the energy for further progress save during the short intervals when a strong, but often alien, dynast could win for his city hegemony over all the rest.

കേരള സാഹിത്യ അക്കാദമി

CHAPTER X

EUROPE AND THE EAST

In the preceding pages I have tried to conjure up a picture of the Oriental world prior to 3000 B.C. The first salient feature in that picture is the hoary antiquity of civilization in the region under review. By the end of the IVth millennium the material culture of Abydos, Ur, or Mohenjo Daro would stand comparison with that of Periclean Athens, or of any mediaeval town. Metallurgy, rightly taken by historians as marking an epoch in human progress, had certainly been practised intelligently even a thousand years earlier. In no part of Europe outside Crete was metal demonstrably in use before the third millennium, and its general employment on a scale comparable to that exemplified in Susa I dates only from the second. The stage of higher barbarism represented at Badari and in the Fayum must, on the most modest reckoning, have been reached in the sixth millennium before our era. In the whole of Europe we can attribute to such a remote antiquity not one single food-producing community outside Crete, unless perhaps the disgusting savages who left the shell-mounds on the shore of the Littorina Sea cultivated a little barley. Yet Badari itself was already a stage removed from the beginnings of food-production as illustrated, for instance, in the rather hypothetical Campignyan culture. The stability of settlement, the methods of preserving grains, the perfection of the pottery, the metal beads and pin all presuppose a long period of apprenticeship.

The Orient's claim to the origination of all the primary inventions is thus beyond dispute, once the diffusionist postulate be accepted. But the accuracy of the postulate is guaranteed by the fundamental continuity that characterized the Oriental world no less than its antiquity. And the same threads that held together the various centres of Oriental civilization can be shown to bind thereto the European barbarisms of prehistory.

This continuity is not an abstract identity. The foundations of life are not just agriculture and stock-raising but the cultivation of cereals and the breeding of cattle, sheep, and swine. At the same time the unity of the eastern world embraces a diversity; Egyptian, Babylonian, and Indian civilizations, for all their common basis and regular intercourse, each possess a ripe and distinct individuality by 3000 B.C.

The factors promoting and maintaining the unity of the Oriental world at the end of the fourth millennium can legitimately be summed up in the blessed word "trade". In the last two chapters we have tried to give that term a precise connotation and to indicate the rather special sociological, economic, and climatic conditions that favoured intercourse at that juncture. We were even able to formulate questions as to political events that might have contributed to the realization of the possibilities inherent in the situation thus defined: Was the unification of Egypt the work of a "dynastic race" from the south? Were the historical Sumerians civilizing conquerors from the same quarter?

The same terms can legitimately be used to account for the propagation of a higher barbarism on the fringe of the Oriental world. The accumulation of wealth and the aggregation of population in great cities obviously intensified enormously the demand for all sorts of raw materials, luxury articles like spices and precious stones, no less than necessities like copper and timber. The same circumstances would stimulate an intellectual ferment and a spirit of adventure to which the histories of Greece or Venice offer parallels. The Egyptians apparently colonized Byblos in early dynastic times.[1] Semitic merchants were established in Cappadocia, working the mines to supply the Babylonian market, before the rise of the dynasty of Agade.[2] The first impetus to Minoan civilization in Crete was given by a colony of Egyptianized Libyans,[3] plausibly regarded as refugees from the conquering Menes. Ships flying the standard of a predynastic Delta nome anchored in Cycladic ports. A partial transplantation to Phœnicia of South Arabian maritime culture is a legitimate inference from traditions.

And so trade goods of Egyptian or Babylonian ancestry are to be found on the islands of the Ægean, on the Anatolian coasts and far away in Macedonia.[4] From Egypt were derived amulets in the form of claws, of flies, of the papyrus sceptre, of the dove or falcon and toilet articles such as palettes and tweezers. The jewelry of East Crete and the smaller islands includes articles such as gold rosettes and diadems whose prototypes have recently come to light at Ur. At Troy we find filagree work reminiscent of that of Ur, and using the spiral too, and ear-rings with flattened ends as at Kish.[5] The last-named type eventually made its way right up the Danube to the tin-lodes of Bohemia where it is associated with other Babylonian forms, the raquet pin like Fig. 82, a pin with knot-head formed on the principle illustrated by the toilet set of Plate XIX*b*, and later with eyelet pins whose shafts may be engraved with the same patterns as those from Kish shown in Fig. 81, 3.

In another direction beyond the Caucasian passes, and on the great caravan routes that traverse Central Asia similar trade goods are found. Gold vessels of archaic Sumerian style were unearthed in a tumulus near Asterabad in Northern Persia.[6] As far away as Turkestan the third settlement at Anau[7] in the Merv oasis yielded figurines, model carts, wheel-made vases, copper daggers and sickles, stamp-seals, and fayence and lapis beads all suggestive of western influence. The word "trade" is quite significant if invoked to explain such phenomena.

But the intercourse thus defined was already between autonomous communities, whether the higher civilizations of the river valleys, or the young barbarisms of the Eastern Mediterranean or Upper Asia. These communities, despite their autonomy, are unmistakably linked by cultural traits that can hardly have arisen independently. Metallurgy is the most obvious instance of this interdependence.

The crafts of the miner and smith are distinguished from all others by the peculiarly mysterious nature of the process upon which they rest. The extraction of copper is the oldest industry that depends upon the transmutation of one substance—hard brittle stone—into another—maleable and fusible metal—that does not in the least resemble the first externally. Hardly less revolutionary is the transformation of the properties of metal by heat; for the changes undergone by clay are superficially less drastic. Metal working must therefore have been a “craft”, a “mystery”; its practice presupposed initiation into the properties of rocks that look to the layman quite commonplace and into a number of complicated and highly technical processes. A given people cannot learn the art by merely acquiring through barter a copper pin or a hatchet; they must acquire a smith; must entice or compel such a one to live among them or have one of their number initiated. And most people will have to import their material.

At the same time initiates must have enjoyed a position of privilege in their own society. As for magicians or great warriors, the bondage of tribal custom would be eased for them. And this very fact would give adjoining communities the chance of enlisting the services of a smith. The privileged position of such is abundantly illustrated in Africa to-day, where in many regions metal-workers constitute a distinct caste. In Europe the same thing is reflected in the popularity of the name " Smith ", and no less in traditions and folk-lore traceable right back to the Heroic Age of Greece. In such the smith often figures as a mysterious and alien personage.

Archæology affords positive proof of the continuity of tradition in metallurgy. In ancient mines in Sinai, the Caucasus, the Austrian Alps, Spain, and Cornwall, the hammers used for breaking the ore all consist of a grooved stone, lashed into the fork of a stick by thongs, fitting in the groove. The generic similarity of the oldest metal tools and weapons is still better known. Indeed, it is generally greatly exaggerated.

The most universal metal types are the flat celt (axe or adze) and the triangular dagger. Yet by the end of the IVth millennium, the types current in Egypt, Babylonia, and Sindh are easily distinguishable. The protodynastic Egyptian axes have straight sides and a straight or rounded blade that is never splayed out ; the adzes normally have a rounded head ; the daggers are triangular or rhomboid, attached by rivets to a hilt from which arms project downwards in a crescent gripping the blade on either side. In historical Sumer the axes and adzes were alike provided with a shaft-hole ; the daggers were hafted with the aid of a tang, supplemented by a ferrule, into a hilt that met the blade in a straight or convex line. The oldest Indian celts are long and narrow, the adzes often have almost a shoulder and the daggers are hafted with the aid of very long tangs without rivets.

The developed Egyptian axe-heads and adzes seem peculiar to the Nile valley. The Egyptian method of hafting the dagger was, however, known in the Ægean and is traceable all over the Western Mediterranean from the earliest times and thence into Bohemia and Central Europe. The shaft-hole axe, which was certainly a Babylonian speciality going back to the phase of prediluvian culture represented at al 'Ubaid, has nevertheless a very limited distribution.[8] It is unknown in India, Upper Asia (Anau), Africa, or Western Europe. But it reached Elam, the Caucasus, South Russia, Syria, Anatolia, the Ægean, and the Danube valley. Even so, the archaic type illustrated in Fig. 72 is confined to Babylonia and Elam. The early Cretan and Cycladic variants go back to the less specialized form represented by the models from al 'Ubaid and Jemdet Nasr. The Babylonian shaft-hole adze is confined to Babylonia, Elam, and the Caucasus. But the tanged daggers characterize the whole Asiatic area as far as Turkestan, Palestine, and Troy, and reach Crete and South Russia. The Indian types cannot be exactly paralleled elsewhere, though the adzes must have some connection with the later lug-adzes.

To reach really universal types we must go back to Middle Predynastic times (S.D. 56) in Egypt and the Susa I phase of the First Prediluvian in Elam. At that date the flat axes and adzes show the same profile in both areas and disclose a type from which the Cretan, Cypriote, Trojan, and other variants may be directly derived. But even at this date (S.D. 50) the Egyptian daggers were hafted in the peculiar Nilotic manner described above, which was already applied to flint swallow-tailed blades. The mid-rib as a device for securing longitudinal rigidity only appears later at S.D. 63.

These differences give some idea of the enormous antiquity of the craft of metallurgy. They imply distinct Egyptian and Babylonian schools as early as 4000 B.C. at least. And the subtle differences in the axe-heads necessitate the assumption of other centres of metallurgy in Crete and Anatolia early in the IVth millennium. As far as Crete is concerned that might be inferred from the flat celt discovered recently in a " pre-Minoan " level at Knossos, and from the use in the island of shaft-hole axes and tanged daggers that must be inherited from a time before Egyptian inspiration became supreme.

How does this affect the question of the original focus of metal work ? Should the credit be given to the First Prediluvian culture of the Iranian plateau, or to the Egyptians ? Or do the unexplored layers at Mohenjo Daro contain the oldest products of intelligent metal work ? From the later distribution of raquet, eyelet, and rolled pins and ear-rings with flattened ends Frankfort[9] argues in favour of the Caucasian end of the highland province. Reisner and Lucas[10] have equally shown that, despite the absence of local ores, the

Egyptians did really enjoy opportunities of making the discovery. And there is one type, later very widely distributed, that goes right back to Early Predynastic times—the loop-headed pin. (The date of the specimen with a knot-head is still obscure.) That is not perhaps quite decisive. From the extreme rarity of copper in predynastic graves one would have to admit that the Egyptians made very little use of their discovery. But the oldest manufactured articles of metal in the world are the beads and pin from Badari.

The question of priority can accordingly to-day only be settled according to the prejudices of individual writers. In either case it would seem that al 'Ubaid should be later than S.D. 50 or 4236 B.C.

If it is so hard to identify the original cradle of metallurgy, how can we hope to locate the first centre of food-production? Speculation here becomes almost uncontrolled guess-work, that is positively harmful. Yet such a centre is more than a methodological postulate. It would at least be absurd to suggest that men began cultivating plants whose range in nature is quite limited, like wheat and barley, at several independent centres in that circumscribed region. It would be hardly less fantastic to assume that the domestication of cattle, sheep and swine happened more than once. The common traits of what is not very happily termed the "neolithic culture" are too numerous to deny some unity behind it.

The oldest food-producing people of whom we possess any approximately dateable remains are the Badarians.

That fact undoubtedly enormously strengthens the claims of Egypt as advanced already by Elliot Smith and his school. But of course it may just be an accident due to the nature of our data. Archæological exploration in Egypt has been far more thorough than in any other country, except perhaps Denmark. The recent discoveries at Ur and in Sindh have shown the danger of the argument *ex silentio* or rather *ab ignorantia*. They show that by 3000 B.C. Mesopotamia was in the lead. And India had progressed still further. It might hence be inferred that these countries had a start in the race of progress. So India or some intermediate country like the Iranian plateau or Southern Arabia, may still put in a claim to be accepted as the cradle, a claim that might be supported, as we have seen, on other grounds.

Inner Asia too still has partizans. Very far-reaching conclusions have been drawn from rather slender evidence obtained from an absolutely undateable settlement at Anau in the Merv oasis.[7] The few animal bones found in the lowest levels here were described by Duerst as belonging to wild species ; higher up he claimed to detect marks of domestication on the bones of similar beasts. But in any case the Anau-li were from the very beginning cultivating bread wheat, and using copper and lead. In the present position of studies on climate, flora, and fauna in late quaternary and early holocene times, Upper Asia seems far less likely to have been a cultural centre than the more favoured regions south of the Eurasiatic spine. Anau, at the mouth of the passes leading into Central Asia, is a place where the southern inventions would soon be implanted.

Without attempting to define the focus more closely, it is permissible to consider the conditions of diffusion. In the first place the cultivation of cereals by the primitive methods at first presumably adopted is by no means incompatible with nomadism of a sort. The case of the Hadendoa has already been cited (p. 62). But there are numerous peoples, notably in the Sudan, practising garden- or hoe-culture, who are necessarily very far from rooted in any particular spot. The fields are tilled by hand with a hoe and not manured ; of course, no rotation of crops or regular fallowing is observed. That means that the land is quickly exhausted, and the tribe must frequently shift its village, and open up fresh tracts of virgin soil. Added to this is the tendency, where the available land is more or less unlimited, for the community to break up. Some of the younger folk, irked by the restraints of the elders, will swarm off and found fresh villages.

Under the special conditions reigning in Afrasia during the late glacial and subglacial periods, such movements would be accelerated. They would be taking place within a zone occupied thinly by hunting folk. The farmer and hunter are no doubt mutually antipathetic. But in lean years the nomad from the high desert would turn for succour and sustenance to the cultivators in the oases. An enlargement of the community through the absorption of the refugees or at least the propagation among the hunters of the better and safer mode of life may result from such contact. At the same time the restriction of the habitable land will obviously extend the range of each migration. The ultimate result would doubtless be a curb on the growth of the population and a specialization in nomadic life involving the abandonment of cultivation. The typical Arab or Bedouin life is no doubt exceedingly rude. It is not, however, primitive, but the result of specialization to meet very adverse conditions. On the other hand, among so-called "Arabs" one might really find all sorts of stages between pure hoe-culture or even sedentary agriculture and unmitigated pastoral nomadism. Some of these tribes may very well preserve vestiges of really primitive habits. The Fayum folk, in the later stage of their evolution represented by the microlithic industry, were apparently tending towards an ever more nomadic existence.

Again, from ethnographic considerations it is certain that some sort of primitive navigation sufficient to take men of a very lowly palæolithic culture across the Banda Deep into Australia is extremely ancient. The presence of Azilio-Tardenoisian fishers on the island of Oronsay at a time when it was submerged 25 feet more than to-day has the same implications. The Syrian coast and presumably also the shores of Little Africa were occupied by fishing-tribes in Upper Palæolithic times. Such may very well have ventured upon short coastal voyages. The hoe-cultivators of the interior in the course of their expansion would impinge upon the maritime communities. Mutual accommodation might result in a new economy based upon cultivation plus fishing. The communities of the coast, their numbers augmented by the improved food-supply thus assured, would then participate in the work of propagation and colonization, this time by maritime routes.

It is not irrelevant in this context to recall how early voyagers were supplied with food-stuffs. The sailors sent by Necho to round Africa took a stock of grain with them in their ships. During the bad season, they beached their vessels, planted grain and awaited the harvest before proceeding. At least on the Nile by the time of the New Kingdom cattle were transported by boat from Nubia to Lower Egypt. On the Ægean the transportation of a horse by water is depicted on a Minoan seal. The propagation of culture by sea ways, including the transportation of cereals and even animals, is by no means incompatible with quite early means of navigation.

The diffusion of the new culture termed neolithic, together with the plants and animals that formed its economic basis, across the drying grasslands of Afrasia and along the adjoining coasts can thus be intelligibly pictured without recourse to vast migrations that would be fatal to herds of swine. But the wanderings of people that it implies were necessarily very erratic and the cultural drift would be modified by all sorts of cross-currents. At the same time the paths of folk-migration would long remain channels for " trade ". The archæological vestiges of the supposed movements and drifts are not therefore likely to be elucidated by any simple formula.

None the less some traces of the spread we have been contemplating are detectable in North Africa and as far afield as Western Europe. We have already noted how in Tunisia and Algeria the advent of the neolithic culture is heralded by arrow-heads of Fayum types. And the decoration of the pottery from the Abri Redeyef is paralleled on " neolithic " sherds recently collected in Northern Egypt. Even slate palettes are found far away in North-West Africa.[11] As far away as Southern Spain one of the oldest ceramic types is a globular bottle formally allied to the Badarian flasks of Plate III*b*. To the same context belong leathery vessels with pointed bases betraying the same leather ancestors as have left their mark on the Badarian beakers. In fact leather beakers of identical form together with no less leathery carinated bowls are presupposed in the oldest stratum of West European pottery as disclosed by the Michelsberg culture. The same European complex apparently shared with Badari-Fayum pebble celts, shell-bracelets, disc-beads of shell, flint sickle-teeth, and some other traits. The new Egyptian discoveries in any case confirm the reality of that cultural drift across North Africa which I deduced from the Almerian evidence four years ago.[12]

There was, however, a second and more indirect spread which, though likewise beginning in Badarian times, only affected Europe at a much later date and which perhaps followed a more southerly road. The Badarian beakers are quite clearly off-shoots from the same complex as gave birth to the much later European bell-beakers. Common to both groups are the form and incised zone decoration of the beakers, hollow-based arrow-heads, a knowledge of metal. The arrow-heads found with bell-beakers in Spain often approximate very closely to the mitreform type of Badari.[13] The form and decoration of the European bell-beakers are admittedly inspired by a family of grass-baskets, representatives of which are still to be found in North-Eastern Africa to-day. The Badarian beakers go back immediately to just the same prototype, though the reminiscence of older leather vessels still shows through.

Now in Spain and Western Europe this complex is superimposed upon older cultural strata to which belong the leathery types of Badarian-Fayum affinities. Hence the proto-beaker complex must have maintained itself practically unaltered presumably on the southern edge of the Sahara. The European beakers are due to a late thrust from this centre and even the Badarian specimens may be only offshoots from the same stem. Now the European beakers were made and used by brachycephals. Seligman[14] has shown that much of the brachycephaly in North Africa to-day is due to invaders from Southern Arabia, invaders who as is well known also reached Spain. Were the beaker-folk forerunners of these later Arabs? Is the original centre of beakers to be located in Southern Arabia? We certainly have proof of the existence east of the Red Sea of the family of grass-baskets from which the beakers were sprung in the vase from Samarra illustrated in Plate XV*b*. The hypothetical oriental elements in Badari would be satisfactorily explained on that bold assumption.

The propagation of culture eastward across the open tablelands of Iran and past Anau along the now desert steppes of Central Asia can be interpreted in precisely the same way as has been applied to North Africa. The northward drift that civilized Crete, Anatolia, and the Ægean coasts is less easily understood, but the remarks on navigation introduced a few paragraphs back may help to make it intelligible. In a short article contributed to the first number of *Antiquity*, I tried to show how propagation along the Danube valley might have taken place. Some rash guesses based upon abstraction according to the culture-historical method might be permitted to fill up the picture.[15]

On the upper Danube and the upper Nile (Nubia) we find dark-faced wares derived from gourd forms and ornamented with incised patterns inspired by the straw sling in which gourds were hung. With these are associated disc-shaped mace-heads and shell bracelets, perhaps also steatopygous figurines. A similar ceramic tradition seems to underlie the oldest pottery of Crete and Anatolia and steatopygous figurines crop up again in the island. In these regions, and still more in Egypt, the complex was certainly masked by later accretions and divergent local developments, but it is possible that the Danubian and Nubian backwaters preserve very faithfully the image of a primitive culture on which the civilizations of pre-Minoan Crete and predynastic Egypt rested.

കേരള സാഹിത്യ
അക്കാദമി

NOTES TO CHAPTER I

[1] If the Sothic date for the XIIth Dynasty be accepted it is necessary to reduce the interval between the XIIth and XVIIIth Dynasties resulting from a mere addition of the reigns as given in later sources by assuming that the XIVth, XVth and XVIth Dynasties of Manetho were in fact partly contemporary, ruling in different parts of the land. Sir Flinders Petrie, unwilling to admit of any such reduction, would put the rise of the XIIth Dynasty a whole Sothic cycle earlier.

[2] It is, however, open to doubt whether the totals given in the fragments actually justify this inference. Scharff points out that the figure of 300 years assigned to Dynasties IV and V together involves serious difficulties. It would for instance follow that certain princes who state on their tombs that they had seen several reigns had lived on a minimal reckoning eighty-one, eighty-four, and 114 years respectively. Scharff therefore inclines to the belief that the calendar was introduced under the IVth Dynasty that actually had its seat at Memphis. See *Grundzüge*, p. 52; *OLZ.*, 1928, pp. 75 f.

[3] Sethe's interpretation of the legends as expounded by Moret, *Nile*, pp. 73 ff., and Scharff, *Grundzüge*, p. 48, cf. note 7.

[4] Newberry and Sethe adopt the former view, while Junker espouses the doctrine that the east-Delta Osiris worshippers subdued Upper Egypt also, *Schmidt-Festschrift*, p. 892.

[5] So Scharff following Sethe; Junker on the other hand would explain the Semitic analogies in Egyptian by the assumption that Semitic and Hamitic had a common origin and denies the validity of Sethe's inferences from the terms for east and west.

[6] So Moret, *Tribe to Empire*, pp. 151 ff.; Seligman, *JRAI.*, 1913, p. 665.

[7] Seligman, *JRAI.*, 1913, pp. 597 ff.; Petrie, *Anc. Eg.*, 1915, p. 70. The attempt to connect the *Shemsu Hor* with the Land of Punt (e.g. Hall, *Anc. Hist.*, p. 92) must be abandoned in view of Sethe's researches. And the "Mesniu" associated with them are not "smiths" but rather "harpooners" who harpooned hippopotami in the Delta marshes; cf. Moret, *Nile*, p. 108, and Hall in *CAH.*, i, p. 261. The traditions

about the Land of Punt cited by Hall none the less prove conclusively an element in dynastic Egypt allied to the people of this unidentified southern region in Abyssinia or Arabia.

[8] First worked out in *Diospolis Parva*. The system is elaborated in *Prehistoric Egypt* and the new sequence dates are appended to *Prehistoric Egypt, Corpus of Pottery*.

[9] The most authoritative statement is given by Sidney Smith in the *Early History of Assyria*. Cf. also Professor Langdon's chapter in *Cambridge Ancient History*, vol. i, as amended by corrigenda in vol. ii., and now Langdon and Fotheringham, *The Venus Tablets of Ammizaduga*, Oxford, 1928.

[10] So Sayce in *Ancient Egypt*, 1924, pp. 72 f. The contrary view is stated by Sidney Smith, op. cit., p. 42.

NOTES TO CHAPTER II

[1] On the Monsoon in India see Simpson in *Q.J. Met. Soc.*, 1921, pp. 151 f.

[2] In *Q.J. Met. Soc.* (London), xlvii (1921), Brooks gives maps showing the assumed paths of the rainstorms in various prehistoric phases. See also the same author's *The Evolution of Climate* (2nd. edit., 1924).

[3] Sven Hedin, *Overland to India*, ii, pp. 214 ff. de Morgan believes that the mountains of Western Persia were glaciated, but cites no evidence (*Préhistoire orientale*, i, p. 96). It must be remembered that the formation of glaciers depends not only upon depression of temperatures but still more upon increase of the snow fall.

[4] Boule in *L'Anthr.*, x, p. 571.

[5] Fauna actually found in human habitation sites in Northern Algeria; cf. *Rec. Constantine*, 1908, pp. 150 ff.; 1923–4, pp. 83 ff.; *L'Anthr.*, xxvii, p. 363, the bear was *Ursus latersi*, the hyæna, *Hyæna spelæa*, and the deer something between *Cervus elephas* and *C. canadensis*. Cf. Blankenhorn, ii, p. 16.

[6] Frobenius and Obermaier, *Hadschra Maktuba*; Flamande, *Les Pierres écrites*; cf. Boule, *Fossil Man*, p. 387; Hassanein Bey, *The Lost Oases*, p. 205; Breuil in *Rev. scientifique*, 25 fév., 1928.

[7] *Antiquity*, i, p. 353; *L'Anthr.*, xxxvi, p. 409.

[8] Huntingdon, *The Human Habitat* (London, 1928).

[9] So for instance Fleure, Presidential Address to the British Association, Section H, 1926.

[10] Turville-Petre and Keith, *Researches in Prehistoric Galilee.*

[11] Burkitt, *Prehistory*, p. 94, pl. iii, 14, 18. Obermaier in *Real.*, ix, p. 112.

[12] Figured in de Morgan, *Préhistoire orientale*, iii, p. 10.

[13] According to Stow, *Native Races of South Africa*, p. 26, no rock-surface was re-used till the original artist had been entirely forgotten.

[14] *ZfE.*, 1926, pp. 358 f.

[15] On the phases of Bushman art and its relation to the Capsian see Miles Burkitt, *South Africa's Past*, Cambridge, 1928.

[16] *J. As. Soc. Beng.*, lii (1883), pp. 56 ff.; *JRAS.*, 1899, p. 95 ff.

[17] *J. Bihar Orissa Res.*, iv, 1918, p. 298.

[18] Sergi, *The Mediterranean Race*; Elliot Smith, *Ancient Egyptians*, p. 59 f.

[19] Represented according to Breuil on the painting of Alpera, *L'Anthr.*, xxiii, p. 547; his remains are reported from the Capsian midden of Mechta el-Arbi, *Rec. Constant.*, 1923–4, p. 83.

[20] The question of the distribution of cereals is summarized with abundant literature by Peake, *JRAI.*, 1927; and *The Origins of Agriculture* (Benn's *6d.* Library).

[21] See J. Cossar Ewart in *Proc. Highland and Agric. Soc.*, xxv (1913), pp. 160 ff.

[22] *Nature*, Mar. 31, 1928, p. 499.

Addendum.—The Field Museum Desert Expedition, according to Mr. H. Field's report to the British Association, September, 1928, collected scores of flints of Upper Palaeolithic and Neolithic types in the heart of the Syrian Desert.

NOTES TO CHAPTER III

[1] On the Capsian affinities of the users of the European pigmy flints, see Childe, *Dawn*, p. 7.

[2] On the Capsian affinities of the Bushmen see Goodwin, *S.A. Jour. Sci.*, xxii (1925), pp. 428 ff, and Schapera, ibid., pp. 505 ff.

[3] Abd el-Adhim, *Rec. Constant.*, 1923–4, pp. 228 ff.

[4] Abri-Redeyef, with similar pottery to that from Abd el-Adhim, *L'Anthr.*, xxiii, p. 155.

[5] Jebel Fartas, pottery as above, *Rec. Constant.*, 1922–3, p. 125.

[6] On the climate, fauna, and flora of early Egypt see Newberry, Presidential Address to Brit. Assoc., 1924, Section H.

[7] *Bull. inst. franç. arch. or.*, Cairo, xvii (1921), pp. 1 ff.; xxii, p. 29; *Nature*, 28th May, 1928, p. 670; *Bull. Soc. Preh. Franç.*, 1928, pp. 200 ff. M. Vignard argues that this new "Sébelian" industry derives directly from the local Moustierian.

[8] *The Growth of Civilization*, p. 30.

[9] Brunton, Caton-Thompson and Petrie, *Badari and Qau*, iii, supplemented by verbal information.

[10] *Biometrika*, xix (1927), pp. 110 ff.

[11] Caton-Thompson in *JRAI.*, lvi, pp. 301; *Antiquity*, i (1927), pp. 326 ff. The view there advanced of the history of the lake has been confirmed against Petrie's objections by the campaign of 1927–8; *Man*, 1928, 80.

[12] *Anc. Eg.*, 1924 p. 34; *Man*, 1925, 78.

[13] *Man*, 1925, 103.

[14] *Schmidt-Festschrift*, p. 867.

[15] Junker, *El Kubanieh Nord*, pp. 9–11.

[16] Cf. e.g. Junker, op. cit., pls. 5–6, and *Arch. Surv. Nub.*, *Report*, 1907–8, fig. 99, 16, with Childe, *Dawn*, fig. 78.

[17] On the Predynastic culture in general see Petrie, *Prehistoric Egypt*; Scharff, *Grundzüge der äg. Vorgeschichte*.

[18] Elliot Smith, *The Ancient Egyptians*, p. 49; Seligman, *JRAI.*, xliii, p. 605; Petrie, ib., xxxi, p. 250.

[19] Capart, *Debuts de l'art en Égypt*, p. 139.

[20] Frankfort, *Studies*, ii, p. 21.

[21] Wainwright in *Anc. Eg.*, 1927, p. 85.

[22] Capart, op. cit., p. 212.

[23] For the flint work see *Diospolis Parva*.

[24] *Arch. Survey Nubia, Report*, 1907–8, pl. 62; graves, 17, 50 and 17, 78; Scharff has omitted these.

[25] *JRAI.*, lvi, pp. 385 ff.

[26] A fuller enumeration of such points is given by Scharff, *Grundzüge*, pp. 21 ff.; *ÄZ*, lxi (1926), p. 22.

NOTES TO CHAPTER IV

[1] Junker, *Tura*, p. 2, and fig. 1; *Schmidt Festschr.*, p. 873: *West-delta-Expedition* (*Denkschr. Akad. d. Wissen. Wien, phil–hist. Kl.*, 68, 3) 1928; Bovier-Lapierre, *C. R. Congrès intern. de géographie*, Cairo, 1925, p. 304.

[2] Wainwright, *JEA.*, ix (1923), p. 27; Scharff, *ÄZ.*, 61, p. 27.

[3] Evans, *Palace*, ii, p. 30; and Frankfort, *Studies*, i, p. 95, n. 5.

[4] For the general features of the Second civilization consult Petrie, *Prehistoric Egypt*, and Scharff, *Grundzüge*.

[5] Newberry, *LAAA.*, i, p. 18; v, p. 134; cf. Moret, *Tribe*, p. 123, *Nile*, p. 46.

[6] *JEA.*, v, pp. 225 ff. Cf. p. 120.

[7] *El Amrah*, p. 7.

[8] *Hierakonpolis*, ii, p. 21.

[9] *Preh. Egypt.*

[10] *Studies*, i, p. 104.

[11] *Grundzüge*, p. 32; but see Junker's criticism in *Schmidt-Festschr.*

[12] *El Amrah*, pl. vii, 1.

[13] *LAAA.*, v, p. 134.

[14] *ÄZ.*, liv (1918), p. 50; Moret, *Nile*, p. 108.

NOTES TO CHAPTER V

[1] On the sepulchral architecture see MacIver, *El Amrah*, p. 7, Garstang, *Third Egyptian Dynasty*, Reisner, *Naga ed-Der.*, and Peet, *Camb. Anc. Hist.*, i, p. 239.

[2] *Hierakonpolis*, ii, pp. 23 and 51.

[3] There are good illustrations of mastabas in *Tarkhan*, i and ii.

[4] Petrie, *Royal Tombs of the First Egyptian Dynasties.*

[5] Cf. Petrie, *Abydos*, i.

[6] Evans, *Palace*, ii, p. 28. Under the Vth Dynasty there was a cult-object represented by this sign. Cf. Hall, *Civilization of Greece in the Bronze Age*, pp. 25 f.

[7] Frankfort, *Studies*, i.

[8] *Prehistoric Egypt*, pp. 10 f.

[9] Dated specimens in University College, London, from Gerzeh.

[10] Gerzeh.

[11] *JEA.*, v, pl. vii.

[12] *Mon. Piot.*, xxv p. 243.

[13] *Man*, xxiii (1923), 81.

[14] Evans, *Palace*, ii, p. 46.

[15] The evidence has recently been stated in great detail by Frankfort, *Studies*, i, pp. 118 f.

[16] *JEA.*, viii, p. 252.

[17] *Tarkhan*, ii, p. 8.

[18] *Al 'Ubaid*, p. 68; for Hesy see Quibell, *Saqarra*, v; for Zoser, *Ill. Lond. News.*, 1928, Jan. 7.

[19] *Tarkhan*, ii, p. 6.

[20] *Tarkhan*, i, p. 20.

[21] Elliot Smith, *Ancient Egyptians*, pp. 110 f.; *Biometrika*, xvii (1925), pp. 25 ff.

[22] *JRAI.*, xxxi, pp, 250 ff.

NOTES TO CHAPTER VI

[1] *Mem. Dél. Perse*, i, p. 17.

[2] For its freshwater character see Campbell-Thompson in *Arch.*, lxx, p. 124 and Hall, *R. Asiatic Soc. Centenary Vol* (1924) p. 108.

[3] Eridu, *Arch.* lxx; Bushire. *Mem. Dél. Perse*, xvi; Samarra and Mohammedabad, *R.A.S.Cent. Vol. l.c.*; Tell Zeidan, *Man.* 1926, 25: Seistan, *Burlington Mag.*, Dec., 1925 (other sites some perhaps belonging here are mentioned by Herzfeld, *ZDMG.*, 1926, pp. 228 ff.); Tell Kaudeni near Fort Sandeman in Baluchistan, *ZfE.*, 1898, pp. 460 ff.

[4] Al 'Ubaid: *Ur Excavations*; i, *Al 'Ubaid*, by H. R. Hall and C. L. Woolley.

[5] Susa *Mem. Dél. Perse*, vols. i, vii, xiii; *Rev. Arch.*, xxiii, 1926, pp. 14 f.: de Morgan, *Préhistoire orientale*, iii, pp. 57 ff.; Contenau, *Manuel d'Archéologie orientale*, i, pp. 395 ff.

[6] *Rev. Arch.*, loc. cit.

[7] On the technique and style cf. Frankfort, *Studies*, i, pp. 25 f.

[8] *Rev. Arch.*, loc. cit.

[9] *Mem. Dél. Perse*, xiii, p. 7, figs. 20–7.

[10] Frankfort, *Ant. J.* 1928, p. 230.

[11] *Growth of Civilization*, 1926, p. 26.

[12] *MAGW.*, liv, pp. 1 ff., esp. 28 and 47.

NOTES

NOTES TO CHAPTER VII

[1] Jemdet Nasr, Langdon, *Ausgrabungen in Babylonien seit*, 1918, *Der alte Orient*, 26 (1927), pp. 70 ff.

[2] Kish, Langdon in *Times*, 17th May, 1928.

[3] *Mem. Dél. Perse*, vii, p. 11 ; xii, p. 66.

[4] Susa II, Intermediate stratum, *Rev. Ass.*, xxi, p. 107.

[5] Musyan, *Mem. Dél. Perse*, viii, pp. 60 ff. ; tombs, pp. 75–7.

[6] de Morgan, *Préhistoire orientale*, iii, p. 85.

[7] For the general character and area of the Second Culture see Frankfort in *Ant. J.*, viii.

[8] The Susa hoard was contained in a characteristic store jar like Pl. XVI*a* ; the seals found in it include type current in the period of Agade. Hence these vases in monochrome paint were certainly still in use in the period which in Babylonia was early Sumerian. It looks as if in Elam a good deal of the material here described may be in fact inspired from Babylonia.

[9] Susa II, cemetery, *Rev. Arch.*, xxiii, p. 16 ; *Rev. Ass.*, xxi (1924, p. 113).

[10] For complete continuity especially Pottier in *Rev. Arch.*, xxiii (1926), For a break, Frankfort, *Studies*, i, pp. 40 ff. Cf. also Matz, *Frühkretische Siegel*, p. 86. For a new element only Contenau, *Manuel*, l.c.

[11] Mr. Woolley went so far as to assert that the Second Style at Susa was only the domestic pottery and the profane art of the people who archaistically used the First Style vases for funerary purposes. His argument rests upon a too literal interpretation of a "theoretical section" of the mound at Susa given by de Morgan, *Mem. Dél. Perse*, xiii ; see *JRAS.*, 1928, pp. 35 f.

[12] Tablets of the same kind have been found at Umma and elsewhere in Southern Mesopotamia.

NOTES TO CHAPTER VIII

[1] Physical remains from Kish described by Dudley Buxton in Langdon's *Kish* ; these from al 'Ubaid by Keith in Hall and Woolley, *al 'Ubaid*.

[2] Representations of Sumerians : see especially Andrae, *Die archäischen Ischtartempel in Assur* (Wissen. Veröff d. D. Orient-Gesell., 61) ; Sidney Smith, *Assyria* ; Langdon in *Archaeologia*, lxx.

[3] Christian in *MAGW.*, liv, pp. 1 ff.

[4] Mackay, *Kish A.*, p. 15, Woolley, *al 'Ubaid*, p. 175, *Ant. J.*, viii, p. 14.

The main sites are:

[5] al 'Ubaid, temple and cemetery of the First Dynasty of Ur, Hall and Woolley, *Al 'Ubaid*, 1927.

[6] Ur cemetery of time of the First Dynasty, *Ant. J.*, viii (1928), pp. 1 ff.

[7] Ur, royal tombs possibly older than the First Dynasty, *Antiquity*, ii, 1928, pp. 1 ff. *Ant. J.*, viii (1928), Oct.

[8] Kish, Archaic Sumerian palace, Langdon, *Excavations at Kish*, vol. i, Paris, 1924.

[9] Kish, archaic cemetery, Mackay, *Excavation of the "A" Cemetery at Kish*, *Field Museum Anthropoligical Publications*, i.

[10] Cf. Hall in *Antiquity*, ii, p. 60.

[11] Shuruppak (modern Fara): The German excavations at this early site have never been properly published; cf. *MDOG.*, xv, p. 9; xvii, p. 17; and King, *History of Sumer and Akkad*, p. 26.

[12] See Matz, *Frühkretischen Siegel*, p. 89.

[13] Sidney Smith, *The Early History of Assyria*, pp. 52 ff. The discussion of the foreign relations of the early civilizations of the Ancient East on these pages is far the most sensible that has ever appeared.

[14] Indian imports; seals and beads, Mackay, *JRAS.*, 1925, pp. 698 ff.; seals, *Rev. Ass.*, xxii (1925), pp. 56 and 99; cf. also *Ant. J.*, viii, p.26; Indian pot-stone, *al 'Ubaid*, p. 42.

[15] For the leaf skirt see Christian, *MAGW.*, liv, p. 28, and Andrae, *Ischtartempel*; Langdon and others hold that the tassels on the kaunakes are of wool and imitate a natural fleece, cf. *Archaeologia*, lxx, and literature there cited.

[16] For a racial connection, Hall, *Anc. Hist. Near East*, p. 173, and Christian, loc. cit.

NOTES TO CHAPTER IX

[1] Lyddeker, *The Ox and his Kindred*, p. 133.

[2] *The Illustrated London News* gives accounts of this culture by Sir John Marshall in the issues of 1924, 20th and 27th Sept. and 4th Oct.; 1926, 27th Feb. and 6th Mar.; 1928, 7th and 14th Jan.

[3] *Archaeological Survey of India, Ann. Report*, 1923–4, pp. 51–4.

[4] *ZfE*, 1898, p. 460.

[5] "The Birthplace of Civilization," *Geographical Rev.*, 1926, pp. 73 f.

[6] e.g. Pottier in *Mem. Dél. Perse*, xiii, p. 90.

[7] This argument is borrowed from Sidney Smith, *Assyria*, pp. 55 f.

Addendum.—In a report issued to the British Association in September, 1928, it is shown that the Sumerian copper ore was probably derived from Oman, thus to a large extent confirming the proposed identification of Magan.

NOTES TO CHAPTER X

[1] Cf. p. 113.

[2] Sidney Smith, op. cit., pp. 57, 83.

[3] This has been demonstrated in great detail by Sir Arthur Evans, *Palace of Minos*, vol. ii, 1928.

[4] *Dawn of European Civilization*, p. 44 *et passim*. I have certainly under-estimated the extent of Egyptian influence.

[5] Ibid., p. 58 ff.

[6] *JEA.*, vi.

[7] The cultures of Anau are described in Pumpelly's *Explorations in Turkestan, Smithsonian Publications*, No. 73. Summaries are given by Burkitt in *Our Early Ancestors*, and by Peake and Fleure in *Peasants and Potters* and in *Priests and Kings*.

[8] Cf. Childe, *The Aryans*, p. 188.

[9] *Ant. J.*, viii, p. 230.

[10] Reisner, *Early Dynastic Cemeteries of Naga-ed-Der*; Elliot Smith, *The Ancient Egyptians*; Lucas in *JEA.*, xiii (1927), p. 169.

[11] *Prähist. Zeitschrift*, xviii (1927), p. 104, pl. 16, 34.

[12] Childe, *Dawn*, p. 136; cf. p. 112.

[13] Ibid., fig. 256.

[14] *JRAI.*, xlvii (1917), pp. 214 and 232.

[15] Prof. Menghin, by an application of this method on a much more sweeping scale with the aid of ethnographic evidence, has worked out a comprehensive theory of an "Upper Palæolithic Hand-axe Cycle" of culture whose representative is the so-called Campignyan (Bayer's Ascalonian). The various flaked flint picks or hoes of mesolithic times would represent intermediate phases between the hand-axe and the

polished celt, and their users would be the first cultivators. (Cf. *Anthropos*, xx (1925), pp. 535 ff.) One trouble about this sort of argument is that the flaked implements are in some cases, e.g. in the Fayum, demonstrably later than the polished! They are commonest where undeniably early neolithic or historical remains are rare and late, as for instance in Syria and North Palestine. None the less there is a great deal of truth in Menghin's general position and his researches are bound to lead to useful results.

ABBREVIATIONS

PERIODICALS

*_Anc. Eg._	_Ancient Egypt_, London (edited by Sir Flinders Petrie).
L'Anthr.	_L'Anthropologie_, Paris.
Anthropos	_Anthropos_, Mödling.
*_Antiquity_	_Antiquity_, Southampton (edited by O. G. S. Crawford).
*_Ant.J._	_Antiquaries' Journal_, London (Society of Antiquaries).
Arch.	_Archaeologia_, London (Society of Antiquaries).
_ÄZ._	_Zeitschrift für ägyptische Sprache usw._, Leipzig.
*_JEA._	_Journal of Egyptian Archæology_, London.
*_JRAI._	_Journal of the Royal Anthropological Institute_, London.
JRAS.	_Journal of the Royal Asiatic Society_, London.
LAAA.	_Liverpool Annals of Archæology and Anthropology._
MAGW.	_Mitteilungen der anthropologischen Gesellschaft in Wien._
Man	_Man_, London (R. Anthropological Institute).
MDOG.	_Mitteilungen der deutschen Orient-Gesellschaft_, Berlin.
Q.J.Met.Soc.	_Quarterly Journal of the Meteorological Society_, London.
*_Rec.Const._	_Recueil des notices et Memoires de la Société archéologique de Constantine._
Rev. Arch.	_Revue archéologique_, Paris.

Rev. Ass.	*Revue d'assyriologie*, Paris.
ZDMG.	*Zeitschrift der deutschen Morgenland-Gesellschaft*, Leipzig.
ZfE.	*Zeitschrift für Ethnologie*, Berlin.

Collective Works

CAH.	*Cambridge Ancient History.*
Real.	Ebert's *Reallexikon der Vorgeschichte*, Berlin.
**Mem. Dél. Perse.*	*Memoires de la Délégation en Perse*, Paris (Ministry of Public Instruction).
Schmidt-Festschr.	*Festschrift P. W. Schmidt*, Mödling, 1928.

Authors

Andrae	*Die archäischen Ischtartempel in Assur*, Wiss. Veröffentlichungen der deutschen Orient-Gesell. No. 61.
Capart	*Les Debuts de l'art en Egypte* (translated as *Primitive Art in Egypt*, London, 1905), references to the French text.
Childe	*The Dawn of European Civilization*, London, 1925.
Evans	*The Palace of Minos at Knossos*, 2 vols. London, 1918, 1928.
*Frankfort	*Studies in the Early Pottery of the Near East.* Occasional Papers of the R. Anthropological Institute, Nos. 6 and 8), London, 1925–7.
Hall	*The Ancient History of the Near East*, London, 1925.
*Hall and Woolley	*Excavations at Ur*, i, *Al' Ubaid*, London, 1927.
Langdon, S.	*Ausgrabungen in Babylonien seit* 1918 (Der alte Orient, vol. 26), Leipzig.
	Excavations at Kish, vol. i, Paris, 1924.

de Morgan, J.	*Préhistoire orientale*, Paris, 1925–7.
Moret	*From Tribe to Empire*, London, 1925. *The Nile and Egyptian Civilization*, London, 1927.
*Petrie	*Prehistoric Egypt*, London, 1920. The same author's reports on special sites—*Naqada and Ballas, Diospolis Parva, Royal Tombs, Abydos, Hierakonpolis*, (published by Egypt Exploration Fund), and *Tarkhan* (published by British School of Archaeology in Egypt), etc.—are also essential.
*Scharff	*Grundzüge der ägyptischen Vorgeschichte* (Morgenland, vol. 12), Leipzig, 1927.
Smith, Sidney	*The Early History of Assyria*, London, 1927.

This list does not pretend to be exhaustive, but taken in conjunction with works cited in the notes to the several chapters it will give students some guide as to the main sources where fuller references can be obtained. Of the above-mentioned works those marked * are of first-class importance for the immediate subject-matter of this book.

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